

# PCFormat

WIN!  
10 Wow! The Burning Crusade  
exclusive beta keys up for grabs!

## REVEALED!

### THE FUTURE OF PC GRAPHICS

First look at R600, G80 & DX10 – the 3D tech we all want for Christmas

### 40 BEST NET VIDEOS

Hot blogs that blow YouTube away!

# TESTED TO DESTRUCTION

Push your PC beyond the limit! How much heat can a CPU take? Does static really ruin RAM? Can a monitor stop a cannon?

## QUAD CORE UNVEILED

Four CPUs in one!  
Intel's new chips are the fastest ever

## XMAS GAMES SPECIAL!

Dark Messiah  
Battlefield 2142  
Broken Sword  
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Caesar IV  
FM2007

## + THEY'RE BACK!

Cartoon heroes  
Sam & Max  
return

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# PCFormat

THE WORLD'S GREATEST PC MAGAZINE

# in your mag

#194 December 2006

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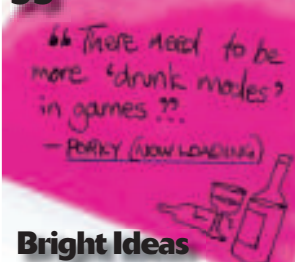


# Tested to destruction

Breaking stuff has never been so much fun. Fire in the hole!

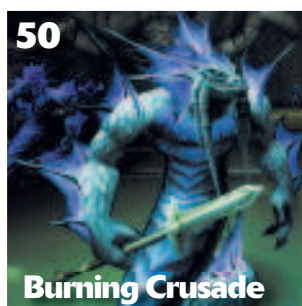
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# PCFormat

## Welcome

**PCFormat is 15 years old this month, but we're holding off on the big celebrations until our 200th issue next year. Still, it's worth noting that when this magazine was launched, there were no 3D cards, processors were measured in tens of megahertz, hard disks in megabytes, 256 colours on screen was luxury and sound cards were new.**

**A lot has changed, and a lot continues to change. Such as this column – next month,**

**you'll find it penned by someone else, because even caretaker-ship of PCFormat seems a fleeting experience.**

**I say fleeting, but really after 34 issues at the helm, it's time for me, and the magazine, to move on. In my time here, we've seen processors go from 32-bit to 64, one core to four, and – almost – a whole new OS from Microsoft.**

**It's been exhausting, but mostly it's been a lot of fun. And an honour – producing**

**the World's Greatest PC Magazine for the World's Greatest PC Magazine Readers. I'll still be cropping up in these pages in the future, but for now... Enjoy the issue. And, hopefully, at least 15 years' worth more.**

**Adam Oxford, Editor**



### Al Bickham, Technical Editor

**We received a call** in late September from the San Francisco emergency services, telling us that they'd found our Technical Editor literally "frothing and jiving" in the middle of a large downtown convention hall. That'd be Al's typically measured reaction at seeing the *Alan Wake* demo on a cinema-size screen, then. We won't tell you what happened when he saw an 80-core CPU... it wasn't pretty.

**Achievement of the month** Buying a hand-blender and learning the art of the perfect smoothie.



### James Carey, Games Editor

**The only thing that** could stop Carey crying this issue following the departure of Adam and Alec was the metric ton of games he had to cram into the review section. This issue is bursting with the biggest titles, *BF2142*, *Dark Messiah*, *Just Cause*, *Neverwinter*, *Football Manager*, *PES*... it goes on. On top of that, the welcome return of point and click faves *Sam & Max* and *Broken Sword* finish things off. Get stuck in!

**Achievement of the month** Surviving a battle, destroying a PC.



### Jeremy Laird, Technology Writer

**Nothing excites HDR** obsessive Jeremy quite as much as the sight of the sun, rendered in all its glory, rising over Cyrodil. He would probably have completed his one-stop guide to DirectX 10 (p122) for a handful

of fava beans, let alone money. Elsewhere, he battles the forces of Public Relations to bring you the latest on cutting-edge gadgets in *Geared Up* (p20).

#### Achievement of the month

Overcoming flaky wireless network protocols to deliver his copy from gay Paris.



### Dave James, Staff Writer

**The world became a** brighter place for Dave this month because the ball-obsessed fool trod the hallowed turfs of both his beloved *FM2007* and the latest *PES* sequel. The story of the late-night struggle to get Bolton Wanderers back into European competition is clearly written in his sunken eyes.

Still, he found enough time in his busy gaming schedule to experience his first car crash (not his fault, he'd like to add!) and discover how hard it actually is to seriously damage a hard drive without the aid of some big power tools.

#### Achievement of the month

Playing around in a scrapyard with a hard drive and a big electromagnet.



# Frontend

THE BEST OF THE MONTH IN COMPUTING

## Big beast

This desk-dominating beast may well be an impressive addition to your gaming rig, but flick over to page 86 if space is a concern. That's where you'll find a group test of the latest ultralight laptops that might – just might – replace these desktop dinosaurs.

**"Quad-core chips could be the ideal gaming setup"**

## Vodcast vogue

We've all heard of podcasts – they're distinctly old-hat. Instead we've gone in search of the best vodcasts (which must, then, be termed 'new-hat') available. Unfortunately it required the digestion of hours upon hours of utter guff in order to find the really impressive stuff. Whatever tickles your televisual fantasy should be catered for on p64.



# The chips are down

## Eye Candy Two-core tech

Fancy a Core 2 Duo rig but don't have a kidney to sell? Evesham has even managed to stick it in a handsome case. A set of neat speakers, a 7900GT and a 19-inch monitor sweeten the deal. A 250GB HD and Media Centre make this ideal for mediavores on a strict budget.

[www.evesham.co.uk](http://www.evesham.co.uk)

### Under the hood

Core 2 Duo 2.1GHz  
1GB DDR2 RAM  
19-inch Viewsonic LCD  
250GB HD  
16x DL DVD-RW  
256MB 7900GT card  
Logitech Internet Pro  
cordless desktop  
Creative Inspire T6060  
2.1 speaker set

## Intel ramps up to four cores, and that's just for starters...

**T**his autumn's Intel Developer Forum (IDF), held in San Francisco in September, revealed some of the company's key

new technologies for the coming year and beyond. Top of the bill, and the tech that has us gnashing most toothily at the bit, was

Kentsfield – Intel's first four-core CPU. And, interestingly, the processor giant is touting it not so much as a productivity orientated

multi-tasker, but as the gamer's ideal CPU. It's perhaps six months ahead of its time in that respect, as the vast majority of



### Die, evil TFT

Hear that sound of distant rumbling? That's cannon fire coming from page 38. Yes, we shot a cannon at a PC. We've also been playing with liquid nitrogen and powerful magnets in an attempt to push our PC components to breaking point. If you like to see components suffer, you can't miss it.

**top  
stories**

**p13**

**MUSIC DEAL**  
YouTube and  
Warner team up

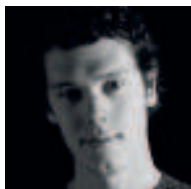
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**ZUNE A BOON?**  
Microsoft player  
under scrutiny

**p17**

**GREYPAL**  
Online payment  
to stop ageing?





**Mike Channell**  
VLOG CONVERT

## Springing to the defence of the new PSP

There's been a side-effect to the vodcasting feature I toiled through this month, and I'm not talking about blurred vision from squinting at low-quality codecs. Nope, the not unwelcome result is that I've subscribed to one of the self-indulgent series. This is partly because I updated my PSP and the latest firmware includes video RSS support, meaning I never have to switch my PC on to catch up with the Travelling Morans. It's also because I'm enjoying the reports from exotic locations.

I've been impressed by the PSP, despite the raging that the games are rubbish, the UMD format is useless and that it's no fun compared to a DS. I'm enjoying copying videos and watching them on a device with a large, bright screen and decent battery life. And with the reasonably sized internet browser, I can flick through Hotmail messages, muck around on MSN Messenger and play simple Flash games.

I don't feel the PSP's been wronged – a lot of the criticisms are valid – but if you're imaginative, you don't need to downgrade to make it an extremely useful handheld device.

games out there still don't thread specific game-engine executions to take advantage of discrete CPU cores – but the list of those in development is large, and growing. The company illustrated the potential of multi-core gaming with two memorable demos. The first, tentatively dubbed *Ice Station Fighters*, is a demanding technical demo from Futuremark. It runs a playable multi-threaded game engine, which analyses core usage on the

fair test of games' performance, but as a tool to demonstrate how multiple cores can work with a properly multi-threaded engine, it's well worth a look-in – and it will be available for home use in the near future.

## GREAT GRAPHICS

The second game demo, and the emotional highlight of PCF's time at the forum, was *Alan Wake – Max Payne* developer Remedy's Big New Game – in which the

**“This demo is the kind of thing to make other devs green-eyed with envy”**

fly, and because different instruction threads are applied to different cores (AI, physics and animation, for example), you're shown exactly how much of your CPU resources are being used up by which threads. For contrast, the demo was also run on a Core 2 Duo CPU, which fared less well in comparison. Like all synthetic benchmarks, it's far from being a

insomnia-addled eponymous hero finds fantasy bleeding into reality in a sleepy Midwestern town. It displayed some startling graphics and physics effects, and even drew intakes of breath from the audience. One particularly compelling scene demonstrated a tornado tearing along a street, pulling everything



Intel's Paul Ottelini shows off his big shiny discs.

## Now, crazy stuff...

Here are three of IDF's highlights...

### KITCHEN WINDOW

More of an academic side project than a product slated for release, *Kitchen Window* is an exploration of the untapped applications of the PC. Coming on as a large picture-frame with a touch sensitive panel, it's a calendar-based repository of photos and memos with instant messaging and GSM functionality onboard, which enables busy families to keep in touch. How long before it gets covered in chip-fat fingerprints and dog slobber, though?

### THE SCHOOL PC

Trialled in Africa, the school PC is essentially a rugged mini-laptop with 802.11g wireless, intended as the modern replacement for exercise and text books. The spec is all it needs to be – a low-speed, power-efficient CPU with 256MB RAM and a 4GB NVM Flash hard drive for added reliability – but it's an effective first step to providing personal computers as learning tools to pupils worldwide.

### THE 80-CORE CHIP

In his keynote address, Intel CEO Paul Ottelini (below) brandished a shining disc of multi-hued silicon – a wafer full of processors for the servers of the future. This 12-inch LP-sized disc contained chips with no less than 80 cores working in parallel, to achieve vast computing power. Let's see *Oblivion* give this a hard time.

in its path to tiny pieces and flinging them about like an angry child. The physics engine had a core to itself, and this demonstration is exactly the kind of thing we need to make other developers green-eyed with envy, and working multi-threading into their own games to take advantage of all four cores.

## MEMORY BOOST

The other key technology on show was Robson – Intel's memory booster. The first iterations will be built into PCI-Express cards, but it's also likely to appear in Vista-ready motherboards before too long. In basic terms, the technology consists of a memory controller and a block of non-volatile RAM. It works in conjunction with Vista's built-in Readyboost and Readydrive functions, which

respectively extend your RAM, and enable your PC to use the extra memory on the Robson card as a cache for your hard drive. The upside is that apps execute and run twice as fast, as does entering into and reviving from hibernation states, because you're relying a lot less on the physical latencies of the hard drive – basically the read-time of the needle finding data on the platter. Another pleasing benefit of the Robson is that, because the hard drive is physically less active, the system consumes less power, which means great things for laptop battery life. With DX10 cards from NVIDIA and ATI in the pipeline, plus Robson and Quad Core from Intel, the coming year is going to be an absolute corker for fans of performance machines. **PCF**

## The laptop redesigned

Here's how laptops will change for the better next year...

### QUAD CORE

Intel is promising deeper sleep states and more efficient and effective power management in its mobile quad-core chips.

by Hydrogen, they're expected to offer 16-20 hours of laptop life per refill.

### ROBSON

Solid-state, non-volatile memory modules taking the load off hard drives means that platters spin less, needles seek less, and less power is used.

### FUEL-CELL BATTERIES

Taiwan is currently leading the way in the development of fuel-cell batteries. Powered



Quad-core processors are on their way.

## MS SAYS

“When I heard what ConsumerReports had done I wanted to bash my head against a brick wall.” – Graham Cluley of Sophos Antivirus reacts to news of 5,500 new viruses being developed.



Air guitar to Stairway to Heaven then, everyone?

## TIME STARVED

Quick ways to entertain yourself

### 1 JUMPING FOR JOY

It's *Lemmings*, but coded entirely in dynamic html. We pity the poor person who slaved away at this, but it's still enormous fun to play. [elizium.nu/scripts/lemmings](http://elizium.nu/scripts/lemmings)

### 2 STICKING POINT

Should the classic above not be infuriating enough, try this horrible game. Drag the spot to the exit without touching the obstacles. [wiredpope.com/sticks.html](http://wiredpope.com/sticks.html)

### 3 WIKI WIKI WILD

If ever there was an argument for Wikipedia content moderation, it's this list of bizarre topics people have tried to add, such as 'Raving White Octopus' and 'Bacon Armageddon'. [tinyurl.com/mml2c](http://tinyurl.com/mml2c)

### 4 SOLDIER! SOLDIER!

A Flash game where you control a cutesy soldier, hopping in and out of vehicles and shooting pink bullets. The helicopters are whizzy and everything explodes with a pop. Lovely. [tinyurl.com/n65ev](http://tinyurl.com/n65ev)

### 5 NODDING OFF

Fan of *Command and Conquer*? Here's how to turn your PC into an impressive replica of the Temple of Nod. Of course, we'd have been more impressed if he'd made it the fist-shaped Hand of Nod. [tinyurl.com/fy8fx](http://tinyurl.com/fy8fx)

Picture © Redferns

# Tube tunes

## Warner music licenses its catalogue to YouTube

**W**ith a deal that's sure to have fans of gratis music jumping for joy, Warner Music has licensed all of its music catalogue to YouTube in return for a cut of the advertising royalties. YouTube had already stated its intention to have every music video ever made on the site, and that goal appears to be one step closer.

What we find interesting, however, is not that we'll be seeing legitimate music videos appearing on the site, but the other side of the deal. In addition to full tracks, Warner will also allow amateurs to

use its property. This means that if you want to strum along to Led Zeppelin or perform a gurning lip-synch to The Doors, it'll simply take the cost from the advertising. As far as we're concerned, this is an absolute triumph for web video, and the perfect way for copyright nightmares, such as YouTube, and IP-owners, such as Warner, to get along together.

Unfortunately, not every music behemoth sees eye-to-tube with the web's current favourite destination and Universal, in particular, seems keen to throw a massive legal

spanner in the works, with CEO Doug Morris claiming that YouTube and MySpace owe the company "tens of millions of dollars". It's difficult to imagine YouTube buckling under the weight of lawsuits, simply because legally savvy big guns, such as Microsoft and Google, are also involved in the same market – something that never happened in the same way with music download services. Perhaps Universal would be better adopting an early stance of support for what is a burgeoning new media, rather than the standard legal sabre-rattling.

# Mutated hybrid chips with laser beams!

Devices controlled by photonic technology to arrive by 2010

**A**t the moment – and since the dawn of technology – communication between the chips inside your computer has been done using increasingly overworked copper wiring. Now, what if we could find something that would communicate faster? Something cool, like lasers maybe...

Around 18 months ago, Intel was getting all excited because it had broken down

the last barrier to making a photonic chip – a component able to process data and transfer it to other components via a minute laser – out of silicon. Now, it's gone and produced one.

The problem was that while silicon is good at amplifying and detecting light, it's no good at generating it. Combining the silicon with an exotically named material, indium phosphide, means the

hybrid chip can create light, which the silicon parts can then read and manipulate to its own ends.

The biggest guarantee of success is that because making this hybrid chip uses existing, low-cost silicon production techniques, Intel will be able to mass-produce these mutant offspring like irradiated bunnies.

421  
STAT!

Seagate has achieved a record magnetic storage density of 421 Gbits per square inch. That means you're looking at around 2.5 terabytes in a 3.5-inch drive.

## WIN A WARCRAFT ACCOUNT!

Here's your chance to play **Burning Crusade** before the rush. We've teamed up with VU Games to secure 10 places for our readers on the closed beta.

The **Burning Crusade** is the first expansion for **World of Warcraft**. New races and flying mounts will feature, and a level cap of 70 will give players the headroom to bash all of the new monsters for fun and profit. Don't miss out!

ANSWER THIS TO  
**WIN!**

Where does Tier 3 armour drop?

- a) Wookey Hole
- b) Blackwing Lair
- c) Naxxramas

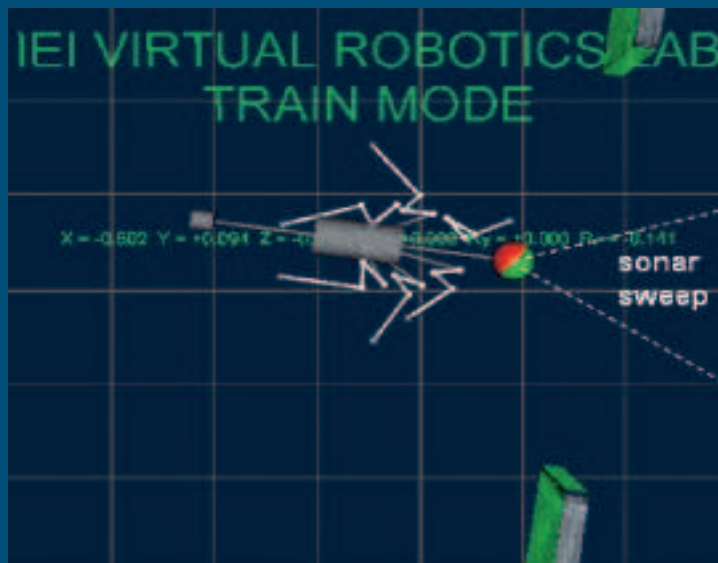
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# The end is AI

## Is this man engineering the demise of mankind?

**S**tephen Thaler is a clever man. Dangerously clever. Men like Thaler made the hydrogen bomb. A *Wired.com* article detailing some of the AI experiments going on at the US Air Force and based on Thaler's Creativity Machine system reveals some startling insights. The Creativity Machine is a method of educating AI by experience rather than programming. By extrapolating existing knowledge, AIs powered by the Creativity Machine have, according to the *Wired* article, already written new music and discovered new minerals "that rival diamonds in hardness".

A bit of research on Thaler's company website, [www.imagination-engines.com](http://www.imagination-engines.com), unearths a frightening array of brilliant technology, highlighting his potential destroyer-of-worlds status. Swarming robot cockroach armies that deliberately leave members of the



## "Thaler's company, Imagination Engines, unearths a frightening array of brilliant technology"

group behind to act as decoys while they infiltrate a facility, machines that learn to walk without programming, procedurally adjusting their step when a limb is blown off and so on, all makes for enlightening and terrifying reading.

The CSMARRT technology that has been

evolved from this research could be coming to your PC near you sooner than you think, too. Imagination Engines has plans to, "generalise CSMARRT for civilian use in the gaming and entertainment industries". So the next time you thoughtlessly blow away a computer-generated bad guy, you may actually be taking an Artificial Life...

# Hewlett-Packard is watching you

## Phone tapping scandal rocks the technology firm

**T**o be completely honest, our job is pretty good fun, but not always tremendously exciting. We're rarely in any real peril, for instance, apart from that time when we tried to fix a stuck CD tray in the nude. However, briefly – just briefly – this month we found ourselves plunged into the dangerous world of high-tech corporate espionage. Hewlett-Packard (better known to most of us as HP) had apparently bugged the telephones of both its own employees and journalists, just like us at PCF, in an attempt to identify how

an information leak had made its way into the press.

Soon after this investigation was found out, the fit really hit the shan. The US congress steamed into the debate and demanded all the records from the illicit inquiry, during which the company had supposedly employed undercover investigators to delve into people's personally identifiable data without their permission, be handed over. The end result of all this backroom chicanery is that Patricia Dunn has now stepped down as chairperson, apologising for the

'unorthodox' nature of the leak investigation, and has been replaced by Mark Hurd.

As far as we know, *PCFormat* wasn't one of the magazines that was bugged, but it was all very exciting for a moment there. Although, AI has been hearing strange whispering on his phone recently and getting weird emails that simply say "heavy breathing" in bold type, but we think it may just be Alec, wracked with cabin fever, trying to work his way back into the magazine.



We're as baffled by this story as Mr Hurd here.



# ZUNE TAKES ON THE iPOD

There's going to be a rumble in the digital music jungle when Zune arrives to take on the iPod

## Sharing

Zune again, and hands down in this case. MS has included ad-hoc wireless networking to allow you to share any songs you have on the device. The kicker is that you'll only get three plays of the song within the space of three days, even if you share an unprotected MP3. This is apparently not DRM wrapping, but instead a hardware imposed limitation, suggesting that the songs might be retrievable with relative ease using a Yamipod-esque third-party app. Sharing music from an iPod, on the other hand, is a nightmare.

**WE SAY** "Zune wins"

## Screen

Zune wins by a shade here, a bigger 3-inch screen (over the iPod's 2.5) means that, despite Apple moving into full-movie downloads with iTunes 7, watching video should cause marginally less eye strain on Microsoft's device.

**WE SAY** "Zune wins"

## Capacity

Whoops, iPod has taken this one. The Zune debuts at 30GB, while iPods that are capacious to the tune of 80GB are available. This may not seem a huge victory at the moment, but with full-length movie downloads on the way (and already available on iTunes if you live in the US) to add to already hefty music collections, you'll need as much space as you can get.

**WE SAY** "iPod wins"

Actual size



Actual size



## Aesthetics

They both look like generically stylish MP3 players to us. Zune certainly doesn't bring anything new to the party. Plus, there are options for a slinky Nano or an even teenier Shuffle at Apple's camp.

**WE SAY** "iPod wins"

**W**e can feel a battle approaching. As reported in PCF192, Microsoft is squaring up to the iPod's 75% share of the portable music game with the no less ridiculously titled Zune. Poke around and you'll find that Zune is one of those joyfully general brand names that encompasses the player, the service and y'know, the vibe, man. It's doubtful that Apple will take this kind of thing lying down, though. After all, its iPod has had free run of the MP3 market for several years now, and those white headphones are the

earwear statement that never seems to go out of fashion.

Talking of colours, the Zune has a chromatic card up its sleeve. Hedging its bets on brown will either turn out to be the best decision Microsoft has ever made, or one of the most ridiculous fashion gaffes around. Lucky, then, that the relative safety of white and black are also available.

Whatever happens, we at PCF think that any challenge to the iPod can only mean better, cheaper MP3 players. With that in mind, let the fight commence.

## Overall

**T**he task is going to be difficult, but we reckon the Zune has the chops to take on the iPod. The concept of sharing music from device to device intrigues us, and with the reported offer by Microsoft to buy out Zune users' iTunes library, it could even steal away existing iPod customers. Also, thanks to a single-minded undercutting policy, the Zune will go on sale in the US for \$229 – less than the equivalent iPod, despite Apple's recent price cut.

**WE SAY** "Zune wins – for the moment at least..."

## WHO IS... Lonelygirl15 YouTube star



**Righty ho, just another video blogger then?**

Well, so people thought. Actually Bree, star of the lonelygirl15 videoblogs, was revealed to be one Jessica Rose, a Kiwi actress living in LA. The entire YouTube blog is a scripted drama with a long term plot involving crazy religious sects.

### How was she rumbled?

Clever viewers became suspicious after slight inconsistencies in the posts. They traced emails coming from the site and found that the messages were originating from an agency based in Los Angeles. The creators have vowed to continue the story and Jess has already become a minor celeb, even appearing on The Jay Leno Show.

# Google posts Belgian waffle

## Web giant's news collater is causing aggravation in Belgium

**G**oogle's news aggregation service has had a rough time recently, as a Belgian court upheld a complaint by its French and German-speaking press. The ruling could have serious ramifications for its future operation should other news sites take similar actions.

The Google News portal collates articles from a variety of outlets and presents headlines, a short snippet of text, a thumbnail picture and a link to the original news site.

Copiepresse, the organisation that deals with the copyright of French and German-speaking press in Belgium, believes by reproducing parts of its articles it was infringing copyright and stole traffic from the

newspapers' sites. The court decreed that Google.be must remove links to those papers, post the court ruling on both its news page and the Google homepage or face a fine of €1m per day.

Google agreed to remove the offending indexes, but it would be interesting to see how that really affected traffic to those sites. Google failed in its appeal against the ruling and despite arguing that having to publish the whole decision was disproportionate and, given the amount of publicity, unnecessary, Google.be's home page is now filled with reams of Belgian legal jargon, throwing its clean aesthetics right out of the window.



## FACT!

If you thought suppositories were bad, scientists are working on a snail-like colonoscopic robot that slides through your guts on a layer of mucus. Yeuch.



CLEARED FOR TAKE-OFF 13.10.06

CONGRATULATIONS, YOU'VE CORRECTED YOUR PLANE. NEXT UP:  
EMERGENCY LANDING ON THE WORLD'S SHORTEST RUNWAY.



# PayPal prevents pensioners

Site's ex-CEO intends to cheat death

**W**hat would you do if you had made a fat wad of cash on a ludicrously successful dotcom business? Clearly there must be an awful lot of net millionaires sitting around twiddling their thumbs and using dollar bills to fuel their fireplaces. Former CEO of PayPal Peter Thiel, on the other hand, has decided to plunge \$3.5 million of his own stash into an entrant in the Methuselah Mouse prize.

While it may sound like a bizarre cult, the prize is actually a competition to end the aging process and Thiel has hedged his bets on the fantastically monickered Dr Aubrey de Grey. Frankly we reckon it's got to be better than splurging it all on booze, drugs and ladies of the night and we're wholeheartedly looking forward to being sprightly 172 year-old PC obsessives.

[www.mprize.org](http://www.mprize.org)



## BEST OF THE PCF BLOG

Sign up for our RSS feed at [blog.pcfformat.co.uk](http://blog.pcfformat.co.uk), for the latest news and random wibbling

### Time warner

We discovered that **Madden 07** has an alert box that pops up before loading, warning you against trying to play the game online after August 31st 2007. EA plans to switch off the servers when 08 arrives. Sneaky.

### Broken Arrow

We decided to reenact the thrill of nuclear war (our passion for megadeath recently ignited by DEFCON) using the USB missile launcher. A bit of Holst provided the backing to the destruction of a Bootleg Optimus Prime. The post-Alec office clear-up is progressing well.

## Capital games tax

The rise and rise of adverts in games

**A**dvertising within games is set to increase over the next few years. EA recently signed a contract with Massive Incorporated to stream ads into three of their key titles, starting with *Need for Speed Carbon*. Even BF2142 in-game ads are on the

cards. "Dynamic advertising opportunities in top EA titles represent an unprecedented marketing opportunity for advertisers to target the youth demographic in the most engaging medium", says Massive CEO Mitchell Davis. You think?



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Available now from  
**GAME**  
[game.co.uk](http://game.co.uk)

(ACTUAL SCREEN SHOT)

After that, let's see if you can rescue an injured climber on Mt. Kilimanjaro or take on the world's best pilots in the Red Bull Air Races. With over 50 real-world missions, it's our most challenging and realistic version yet. Every detail is true to life, from the cockpit views right down to whole cities and working airports. Add photorealistic terrain graphics, online interaction and 23 faithfully recreated aircraft – Microsoft® Flight Simulator X is the next generation landmark in flight.



AS REAL AS IT GETS

[www.flightsimulatorx.com](http://www.flightsimulatorx.com)







**Jeremy Laird**  
ET TU, SONY?

## Put all of your digital eggs in one basket

Friends, Romans, PCF readers, lend me your ears. I come to bury Blue-ray, not to praise it. You see, instead of playing nicely with everyone else, Sony has once again attempted to produce a proprietary platform in Blu-ray. And I for one hope to hell it doesn't pull it off.

For starters, Sony has proved time and again in recent years that it simply doesn't understand digital media (evidence for the prosecution: the awfulness of SonicStage). With Blu-ray itself, it has once again demonstrated that it is willing to compromise product quality in order to save face. How else to explain that early Blu-ray discs were encoded in ancient, baggy MPEG2 rather than VC-1, which is Microsoft's baby, or H.264, part owned by arch rival Toshiba?

But most of all, Blu-ray is a technology for its own sake and nothing more. Using a modern and efficient codec such as VC-1 or H.264, the 30GB capacity of HD-DVD (20GB less than a dual-layer Blu-ray disk) is more than enough to store a feature-length movie. There's simply justification, therefore, for the higher production costs of both Blu-ray drives and disks.

# Gearred up

**GASP-INDUCING GEEKTASTIC GOODIES**

## Small wonder

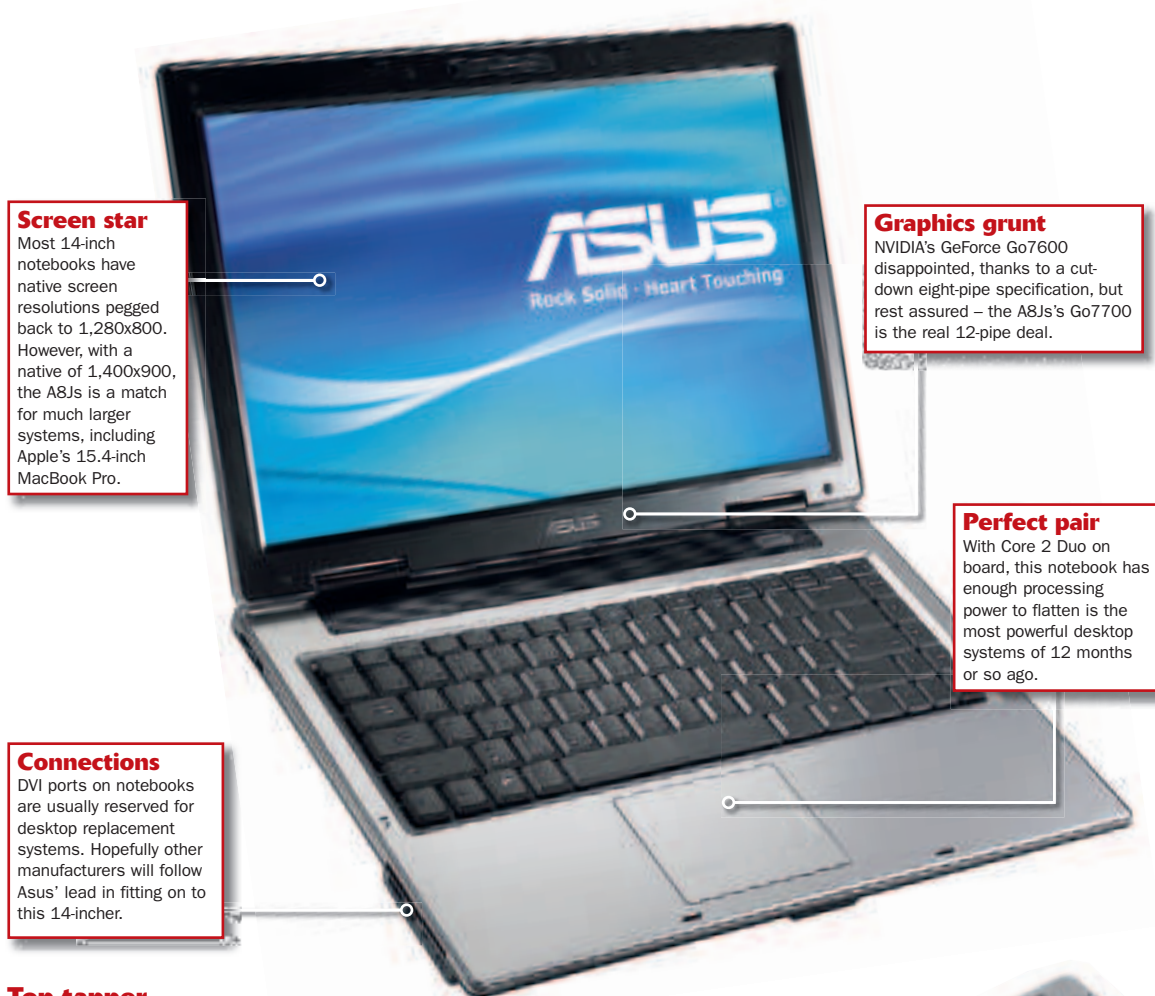


### Asus A8Js

**Price** £900 **Available** Christmas **Web** [www.uk.asus.com](http://www.uk.asus.com)

Predicting the arrival of the ultimate gaming notebook is a dicey business. Truth is, PCF has been guilty of peddling false prophesies on this subject in the past. In mitigation, it was the unexpectedly disappointing performance of ATI and NVIDIA's mid-range mobile graphics chips that put paid to our proselytising. But if this new Asus system doesn't turn to be the ultimate mobile fragging machine, we'll jolly well cry. For starters, as a 14-incher, it's the

ideal compromise between portability and usability. Even better, the widescreen LCD's native res is 1,400x900. It's also matched to the pixel-pushing power of the 12-pipeline GeForce Go7700. Bung in the finest PC processor on the planet, and added extras including a DVI port, memory card reader, webcam and the expectation of Asus' typically excellent build quality and the A8Js goes straight to the top of our most wanted list.



#### Screen star

Most 14-inch notebooks have native screen resolutions pegged back to 1,280x800. However, with a native of 1,400x900, the A8Js is a match for much larger systems, including Apple's 15.4-inch MacBook Pro.

#### Graphics grunt

NVIDIA's GeForce Go7600 disappointed, thanks to a cut-down eight-pipe specification, but rest assured – the A8Js's Go7700 is the real 12-pipe deal.

#### Perfect pair

With Core 2 Duo on board, this notebook has enough processing power to flatten is the most powerful desktop systems of 12 months or so ago.

#### Connections

DVI ports on notebooks are usually reserved for desktop replacement systems. Hopefully other manufacturers will follow Asus' lead in fitting on to this 14-incher.

## Top tapper



### Wireless Entertainment Desktop 8000

**From** £150 approx **Available** January **Web** [www.microsoft.com](http://www.microsoft.com)

Microsoft's Windows division may lurch from one borked launch to another, but the clever boys over in the hardware labs keep cranking out the kit. Their latest salvo includes no less than nine new products, headlined by this killer keyboard and mouse combo. Behold: the world's first rechargeable, backlit wireless keyboard. Proximity and lighting sensors on the keyboard and brushed aluminium trim on the mouse provide more showbiz. As Bluetooth devices, both the keyboard and mouse also have a 30-foot operational range. Whether any keyboard and mouse is worth £150 or so is another story.







## Desktop deluxe



### BenQ FP222W

Price £375 Available Now Web [www.benq.co.uk](http://www.benq.co.uk)

What do you do if world and dog already offers 20 and 24-inch widescreen LCDs? Simple. Fill the gap with a 22-inch model. If the new FP222W is anything like BenQ's 20-incher, the FP202W, it will likely offer unrivalled bang for your buck. Indeed, a couple of years ago, a 22-inch widescreen monitor was the stuff of fantasy. Today, this gaming-friendly model with lightning-fast 5ms pixel response and both VGA and DVI inputs is within reach of those of us of more modest means. Shame then the 1,680x1,050 native is the same as the FP202W and that HDCP support is conspicuous by its absence.

## Dell-ectable



### Dell Dimension E521

From £788 Available Now Web [www.dell.co.uk](http://www.dell.co.uk)

This is the first AMD-powered Dell desktop system in Blighty. Comparisons with Dell's Core 2 Duo desktop, the Dimension 9200 aren't fair, but it's still worth noting that this 2.6GHz dual-core Athlon X2 5000+ system is cheaper than a 9200 packing the lowliest Core 2 Duo processor, despite packing more system RAM and a larger hard drive. Still, 2.6GHz worth of dual-core Athlon 64 goodness and a 19-inch LCD monitor for under £800 is an awfully attractive package.



## Versatile Vaio



### Sony Vaio N Series

From £650 approx Available late 2006 Web [www.sonymstyle.co.uk](http://www.sonymstyle.co.uk)

If you can't beat 'em... shamelessly rip 'em off. That appears to be Sony's philosophy with its latest 15.4-inch widescreen lappy. Barring a choice of colours for the rear panel of the screen enclosure (black, white and Wenge brown), the minimalist design vibe of the new N series reeks of MacBook. Mercifully, however, with prices starting well south of £1,000, it's significantly cheaper than Apple's similarly proportioned 15-inch MacBook Pro. Partly that's a consequence of forgoing new-fangled Core 2 Duo processors in favour of Core Duo. But substituting the MacBook Pro's impossibly lush alloy chassis with plain old plastic probably helps.



## PREVIEW MANIC MEMORY



### Apple sauce



### Corsair Dominator

Price £422 Available Now Web [www.scan.co.uk](http://www.scan.co.uk)

It's symptomatic of the maturity and sophistication of the PC as an enthusiast device that we should arrive at this: a DDR2 memory stick with the sort of attention to detail normally reserved for highfalutin video cards. Dominator memory's main claim to fame is a cooling solution called Dual-path Heat Exchange. Essentially, this novel heat dissipation technology centres around a clip-on heatsink which channels hot air away from the top of the CPU chips. The really clever bit is the fact that Dual-path Heat Exchange uses the circuit board itself to soak up heat from the backside of each chip. Add in certified operating speeds of 1,111MHz, offensively low CAS latency timings (for DDR2 of this speed) of 4-4-4-12 and a custom-built clip on Airflow fan and, well, if you can afford it, this is probably as good as it gets.

## Three alternatives...

### Crucial Ballistix



Price £251 Available Now  
Web [www.crucial.com/uk](http://www.crucial.com/uk)

1GHz worth of Crucial's finest RAM. Not quite as quick nor as low latency as Corsair's über DIMMs. But then these versatile Crucial sticks are damn near half the price, and well worth further investigation as a result.



### Kingston HyperX DDR2



Price £326 Available Now  
Web [www.kingston.com](http://www.kingston.com)

Running at PC-8500 or 1,066MHz, Kingston's quickest HyperX sticks are no slouches. Whether spending £300 odd on RAM makes sense is another matter.



### 2GB of AN Other RAM



Price £150 and up Available Now  
Web [uk.google.com](http://uk.google.com)

Crazy clocks speeds are all very well and good, but if it's plain old DDR2 PC2-5300 you're after, the likes of Ebuyer and Aria will do you 2GB worth of no-nonsense RAM for around £150.



## ANALYSIS

# QUAD-CORE IS COMING BUT WILL IT PROVIDE ANY PERFORMANCE BENEFIT?



Haven't quite got your head round dual-core computing yet? Still trying to work out whether Intel's all-new Core 2 Duo is really all that? Well, you'd better get your skates on, kids. Because quad-core Kentsfield is coming this way. And it might even be available to buy by the time you read these words.

Kentsfield, if you hadn't heard, is Intel's internal codename for the upcoming quad-core revision of Core 2 Duo (see page 10). In fact, it's not a genuine quad-core architecture. It's actually a pair of 65nm Conroe chips (each with two cores) glued onto the same CPU package. And that's key, because Core 2's clever shared cache technology will only be partially functional on Kentsfield. The two separate chips will have to communicate using the the laggy front side bus interface, which in turn will compromise scaling. In other words, don't expect Kentsfield to deliver double the performance of Conroe when running at the same clockspeed. It's likely that early quad-core chips will clock slightly lower than existing dualies, too.

As for AMD, well, the smart money says you won't be able to pump out a quad-core chips

– Athlon 64 X4, anyone? – until at least mid 2007. So, that's a six to nine month quad-core advantage and game set and match to Intel?

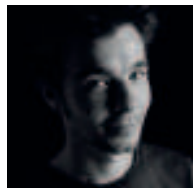
Not quite. For starters, before the end of 2006, motherboards with AMD's dual-socket 4x4 technology will be widely available, providing a four-core solution for Athlon fans. But more significantly, AMD's use of so-called "glueless" HyperTransport links between two processor packages translates into significantly superior performance scaling. It's the reason why AMD's well-regarded Opteron chips remain extremely competitive in the server market. And it's also the principal reason why AMD's Athlon 64 could well be smelling a damn sight rosier once quad-core computing becomes the norm, rather than the preserve of the lucky few.





# Gameslatest

## THE FUTURE OF GAMES



**James Carey**  
WARMONGER

### Games imitating life, or life imitating games?

This month I've been on an odyssey of the unreal, the so-nearly-real-it's-scary and the so-actually-real-I-could-have-died, all in my quest to find the ultimate in game immersion. First I strapped a pair of video goggles to my TrackIR 4 cap, creating an ad hoc VR helmet. Oh yes.

Looking around a cockpit felt great. But still, this wasn't the level of immersion I craved. So I took to the skies and flew a real, actual, plane for the first time, courtesy of *Flight Simulator*. Having the lives of my pilot instructor and the editor of PCF's sister website CVG in the palms of sweaty hands felt pretty real, but still, there was an odd sense that it was just a game. Perhaps it was the similarity of the cockpit to those of FSX, or the fact that we did the same flight in the game before trying it, but the experience had an unreal air. Finally, I called in the Civil War reenacting Southern Skirmish Association. How could I claim a game like *Medieval II* depicted the realities of war if I hadn't seen it myself? So I braved musket fire and choked on smoke, all in the name of PCFormat. It's a hard job...



Is this the world's first humanitarian disaster simulator?

**G**ames must have something to say. They're more than mere escapism, and many game designers produce ideas that are aimed at changing the world. Games can tackle issues like famine and globalisation seriously, we're sure.

This month's web-game of choice has been *Airport Security* ([www.shockwave.com/gameslanding/airportsecurity.jsp](http://www.shockwave.com/gameslanding/airportsecurity.jsp)), a satirical action game that highlights the absurdity of current airport conditions by getting the player to confiscate bizarre items from hapless travellers. The game's message is clear: airport security has overstepped the bounds of what we're happy with.

The company behind *Airport Security*, Persuasive Games ([www.persuasivegames.com](http://www.persuasivegames.com)) has prouced other so-called 'serious' games. Earlier this year, it



Right-on gaming is here to stay, so get used to it...

# Games get serious

## Our electronic toys aim to save the world

released *Disaffected*, a game which highlighted the laziness of staff at a Kinko's store. The intention of the game was to take on big, unpopular companies with smart counter-marketing.

Other serious games, however, are just as humourless as their subject matter. The United Nations' Food Force is a series of mini-games designed to teach the players about the enormous challenges facing those people who try to get emergency aid to people in disaster areas and the developing world. Everything from finding the people in trouble in vast tracts of terrain, to using the right amount of ingredients in the emergency rations has been articulated in game form.

Rather than being entertaining, it challenges gamers and gives them a sense of how desperate the

problem facing those involved really is.

Game mods are also a focus for political activism. The *Escape From Woomera* *Half-Life* mod (in which players got a taste of Australia's immigrant detention camp) so outraged the Australian government that the dev team were threatened with legal action. In *Second Life*, meanwhile, the virtual citizens have built 'Camp Darfur' to highlight the disaster unfolding in central Africa. That project has fallen to SL grievers intent on disrupting charitable activities in the game.

It's becoming clear that games provide a unique toolset for delivering messages to the people who need to hear them. Unlike the passive and readily-ignored

methods of TV-advertising or leafletting, games encourage people to interact directly with the ideas they are intended to promote. The question is whether the reach of games will be used for good or ill. The use of the free FPS *America's Army* to recruit young people into the US military tells us that it's not just charities who are taking advantage of the power and reach of games.

## GOSSIP!

Just Flight's C-130 Hercules add-on for Microsoft Flight Simulator 2004 was nominated for a BAFTA last month. Still not sure if the Academy is missing the point?



# A ballet in bullet-time

Woo hits the flatscreen with Stranglehold

**DUE DATE** Spring 2007 **PUBLISHER** Midway **DEVELOPER** Midway Chicago  
**WEB** [www.midway.com](http://www.midway.com)

**Y**ou may think an action game where the protagonist leaps around an environment torn apart by flying lumps of lead in slow motion would be nothing more than a *Max Payne* clone. That may be true of *Stranglehold* to an extent, but one of the driving creative forces behind the title is none other than Mr John Woo. Without his work in Hong Kong cinema there would've been no *Max Payne* or the myriad of clones spawned by Woo's visual style.

"John Woo has contributed a lot of art, animation and cinema direction, and has been very involved in writing the story," says Brian Eddy,

Executive Producer on the project. Woo is constantly giving the team advice, "even when it comes to areas that he is not directly very involved in, like gameplay design, or how to make a special move in the game more dramatic and impactful. Our process working with him has been very collaborative."

It's not just the eponymous Woo that's involved either, Midway has enlisted his long-time collaborator Chow Yun Fat to resurrect Tequila, the gunslinging detective from classic film *Hard Boiled*. You just know it's going to be both beautiful and bloody at the same time.



## in the pipeline

Predicting the future of gaming like a psychic plumber in a tie

**AUTUMN**

### The Mark

Marty, it's the Libyans! Well, maybe not, but they're definitely terrorists, and they've got a nuke. All it needs is a couple of tool-up squaddies running through corridor after corridor of gun-toting baddies and it'll be sorted. [www.jowood.com](http://www.jowood.com)

**NOVEMBER**

### EA Sports Cricket 07

Sporting the all new Century Stick control, *Cricket 07* is meant to be the closest thing to actually holding a real cricket bat. Fully controlling the shot selection, direction and foot choice it could be a serious cricket sim at last. [www.electronicarts.co.uk](http://www.electronicarts.co.uk)



### Space Force 2

So long as you're not wanted for hate crimes against their race you can recruit up to three wingmen to aid you in this unashamed *Elite*-a-like. Command your own fleet in a free-roaming galaxy of possibilities. [www.spaceforce2.com](http://www.spaceforce2.com)

**WINTER**







## Beta eater

Like Formula One, but with more blood and guns

Have you grown weary of the procession-like nature of most motorsport? Us too. We bet you're hankering after something with a little more action, speed and well, violence, eh? Probably a smattering of blood too.

**Carnage** sees you fighting against vehicular opponents, customisable vehicles, armour, tailored components and, of course, big, fat, scrap-making weaponry. Using real-time dynamics and accurate collision systems this is the natural successor to all the **Destruction Derby** fantasies you've ever had.

And here's the best bit: we've linked up with Nice to give away 50 keys on **Carnage's** upcoming closed test of this piece of petrol-junkie paradise. Thanks to Nice Tech's proprietary AliceServer technology the game is fully scalable from systems with graphics cards running the latest in pixel pushing power right down to those just with on-board graphics.

All you need to do is send the answer to this simple question to [betateater@futurenet.co.uk](mailto:betateater@futurenet.co.uk).

**Your car has problems and the mechanic tells you the sump has gone. Does it mean:**

- a) Your car will leak oil b) Your car will a'splode in 30 seconds. Run! c) Ooh, it'll cost you.



Enjoy the **Carnage** with one of our 50 beta keys.



## Simply marvellous

Your favourite spandex-clad misfits return in a cross-platform battle to the death

**DUE DATE** 2008 **PUBLISHER** Microsoft **DEVELOPER** Cryptic Studios **WEB** [www.crypticstudios.com](http://www.crypticstudios.com)

### People kissing and

making up makes **PCF** go all gooey – even more so when that mutual love-in results in what could possibly be the most exciting MMO prospect ever. Cryptic Studios, the team behind the *City of Heroes* and *City of Villains*, has announced a partnership with Marvel Entertainment and Microsoft to produce *Marvel Universe Online*.

The deal will see the MMO hitting 360 and Vista, allowing PC gamers to thwart the console owners.

Marvel are quoted as saying "Cryptic Studios is

widely respected for its track record of innovation and understanding of the MMO space," but unsurprisingly made no reference to past acrimony over the *City of Heroes* and *City of Villains* games.

The case was later settled after it was revealed that most of the complaints were about characters created by Marvel employees themselves.

The employment of Cryptic as developer of its

**"The employment of Cryptic Studios as developer is an impressive coup for Marvel"**

Marvel had tried to sue Cryptic and NCSOFT over allegations that it was infringing copyright by allowing players to create characters resembling their established superheroes.

game is an impressive coup for Marvel, because their online heroic heritage could put this title far ahead of the proposed MMO title from rival comic company DC.

### Dawn of Magic

In most RPGs, playing as the mage is a sure way of getting yourself beaten up. In *Dawn of Magic* the mage is the only class you get to play, with dozens of variations and a whole host of specialisations.

[www.dawn-of-magic.com](http://www.dawn-of-magic.com)



### Peacebreakers

By the look of *Peacebreakers*, *The A-Team* was very popular with devs in Poland. It's a tongue-in-cheek action adventure about a bunch of slightly insane soldiers of fortune, adapting military and civilian vehicles in weird ways. [www.jowood.com](http://www.jowood.com)



### Tortuga: Two treasures

More *Age of Pirates* than *Black Buccaneer*, we hope, as you sail the seven seas taking revenge on your former captain Blackbeard. Free-roaming, but with a strong story to back it up, *Tortuga* is looking ship-shape.

[www.tortugagame.com](http://www.tortugagame.com)

SPRING 2007

JULY 2007



# TOCA in trouble?

## RACE – The WTCC Game

**DUE DATE** November **PUBLISHER** TBC **DEVELOPER** SimBin **WEB** [www.race-game.org](http://www.race-game.org)

**G**iven the garlanding that *GTR2* received, it would be easy for the gents and ladies at Simbin to rest on their laurels. The reality is completely the opposite, though – work has already begun on the next game in the company's racing Scuderia. The World Touring Car Championship, central to *RACE*, is a hyper-competitive, door handle-worrying racing series, populated by nippy little two-litre saloons and hatchbacks.

More importantly the game features some of the most spectacular tracks in the world, including Britain's own Brands Hatch and the ludicrously twisty Macau street circuit, which gives Monaco a severe shoeing when it comes to barrier-scraping terror. We had a chance not just to play the latest build, but also catch up with Diego Sartori from Simbin to find out why this could be even more thrilling and involving than the almighty *GTR2*.

## RACE

We chat to the team behind *GTR2*'s only serious rival

**PCFormat:** How will the race differ from *GTR2*?

**Diego Sartori:** On track it differs mostly because the player won't have the brute force of the GT cars, power is not there to help you make up for small mistakes and the lack of aerodynamic grip requires a much smoother style than the GT cars, it is a completely different challenge and what might seem like an easy game at first will reveal its true simulation gene when the player starts the hunt for the record times.

**PCF:** You're working closely with Eurosport, how has this helped development?

**DS:** Access to reference material when creating the cars has been a big help, access to the teams when doing sound recordings is the primary reason why the sounds in *RACE* are so close to the real thing. Also, access to the drivers and engineers has been crucial for us when venturing in to new ground



Prangs, scrapes and tyre smoke – we love it.

with the front wheel drive cars. It has of course had the same importance with rear wheel drive cars, but there we had a better idea of how they should be before we started.

**PCF:** A little bird told us that the WTCC isn't the only championship in the game. What's the story?

**DS:** We have one support class, the Mini Cooper Cup, this is nice step. It's a one-make series meaning that the driver is the crucial component. This makes for some great races. The historic touring cars are actually a tribute to WTCC, and are manufacturers that have been part of touring car racing for many years. Exactly 19 years ago (1987) a series that was then also called the WTCC raced at Brno. World Touring cars did not return to Brno until this year, so we thought we'd add the E30 BMW M3 and the ALFA 75 Turbo to the game and let people race some motorsport icons.



## Managing to keep up

The third Champ Man in two years is almost here

**DUE DATE** November **PUBLISHER** Eidos  
**DEVELOPER** Beautiful Games Studios  
**WEB** [www.championshipmanager.com](http://www.championshipmanager.com)

**D**avid Rutter, Studio Manager at Beautiful Games, is well aware that *Championship Manager 2007* will always be compared to SI's games, but doesn't want to get involved in any "corporate willy-waving over features." Reassuringly though, there are a couple of reasons to shout about this latest incarnation of the *Championship Manager* franchise.

On one simple page you can set team talks, individual player negotiations and quickly and easily target opposition players for special 'treatment' during upcoming matches. This is all present in *Championship Manager's* rival, *FM2007*, but *Champ Man's* handling of it is far more user-friendly.

The second reason to shout is the Match Analysis section. This function records every single action in any replayable match from crosses to tackles and throw-ins. Allowing this much analysis of its match engine is a very brave move by Beautiful Games, but one that aspiring (not to mention unrepentantly anal) wannabe football managers can get lost in for hours.



You wanted detail, and thanks to the Match Analysis function, you've got it. Oh boy, have you got it.

### Fall of Liberty

This is all about guerrilla warfare with the remnants of the US fighting an occupying force. The Nazis won the war in Europe and invaded North America in 1951, now it's a case of fighting for freedom.

[www.codemasters.com/fallofliberty](http://www.codemasters.com/fallofliberty)



## The Witcher

**DUE DATE** Q1 2007  
**PUBLISHER** CD Projekt/Atari  
**DEVELOPER** CD Projekt Red  
**WEB** [www.thewitcher.com](http://www.thewitcher.com)

**W**e've had our beadies on *The Witcher* since last year, and it's now close to a release. Its dark morality has more in common with *Bioshock* than *Oblivion*. This is no high fantasy of pretty elves and dwarves – it's full

of folklore, and brought to life by a greatly tweaked *Neverwinter Nights* engine. Uniquely, your actions in *The Witcher* have unpredictable effects on the game and story further down the line. Your decision to save a man about to be slaughtered might seem like a good idea for example, but he might then go on to murder someone who

would've helped you later on. The ramifications of actions aren't apparent at the time, so you have to live with the cards you are dealt in the world of *The Witcher*, the familiar binary choices of good deed versus evil are not applicable. Flowing mêlée combat looks set to become a bit of a fad, but *The Witcher* should get there first, early next year.

## Ancient Wars: Sparta

Spartan it may be, but that doesn't mean it's lacking useful new features

**DUE DATE** TBC **PUBLISHER** Playlogic **DEVELOPER** World Forge **WEB** [www.playlogicgames.com](http://www.playlogicgames.com)

**T**he RTS genre may be over-subscribed at the moment, but there's still room for innovation. World Forge's new Ancient Wars Engine, while not a stroke of strategic genius, still has some very worthy features.

The one that stands out is the fact that all units in the game are basically

neutral. There are no proscribed units, so when producing your warriors you have three basic types: light, medium and heavy.



These need to be equipped with weapons you've researched, but coupled with this system is the ability to harvest battlefields for weapons discarded by the warriors you recently sent to Hades. Animals and vehicles rendered rider less can be acquired by your scavenging troops at the click of a button.

### TBA

#### Cannonball 8000

We got really excited about the prospect of driving like Dom DeLuis' Captain Chaos, but then we found that the guys making it are also responsible for the unpleasant *Earache Extreme Metal Racing*. [www.cannonball8000.com](http://www.cannonball8000.com)



#### Starshatter: The Gathering Storm

The original *Starshatter* combined *Homeworld*-esque RTS and *Freespace* combat in space and above barren planetoids. But it was unconscionably ugly. That will be rectified in this update and should get a full release. [www.matrixgames.com](http://www.matrixgames.com)

WINTER 2007



**Jim Rossignol**  
MAN ON THE MOON

# Watchthisspace

**THE FUTURE IS HERE. JIM ROSSIGNOL ENTERS THE VOID**

## The new era of space

Work on the biggest space project of all time resumes

**T**he International Space Station (ISS) has to find a purpose. If the current US administration is to be believed, that purpose is to be found in a project that will dwarf the space-launch projects of the 1960s and finally put humans on the surface of another planet. It will be the journey to Mars.

Of course any such epic journey has to begin with small steps and the smallest of those began this month with the resumption of the International Space Station project after a two and a half year hiatus. The space station, the largest man-made object in orbit, was originally intended as a platform for

scientific research, but now it looks as if its purpose might be something far wider than that – it will be a waypoint for a moonbase, and then a trip to the Red Planet.

The new 'Orion' spacecraft is intended to make a trip to the moon in 2020, but in the meantime the ISS will have to be expanded into a far larger structure than it is at present – not an easy task when done in the vacuum of space. "It's like building a ship in the middle of the ocean from the keel up," says Mike Suffredini, NASA station program manager. "You've got to float and you've got to sail. All this has to occur while you're

actually building the ship, and that's what station is like." Another 15 shuttle trips will be needed to complete the station, including the tasks of replacing its power-grid and cooling system. By the time the project is complete in 2010, it will be double its current size, and is anticipated to produce 50 Megawatts of electricity, which will run four entirely self-contained laboratories.

Of course, if all else fails, the ISS could become a tourist spot. Three space tourists have visited so far, each one spending a mere \$20 million on their vacation.

[www.nasa.gov](http://www.nasa.gov)

The International Space Station project is intended to last for 30 years.



## Gas-powered broadband?

**H**i-tech company Nethercomm has announced that it expects to provide broadband connections without wires or cables of any kind. Its technology would instead beam radio-signals down gas pipes to provide ultra-high bandwidth web access. Nethercomm has yet to demonstrate a technology that can decode the radio waves when they reach their destination, however.

If the ambitious company manages to solve this problem, it could turn out that the internet really is merely a 'series of tubes'. [www.nethercomm.com](http://www.nethercomm.com)

**This month in Science**  
**November, 1971**

On this day, the first UNIX manual was published. The OS became one of the most important tools in computing, with its academic bias making it the obvious choice for R&D work all over the world.

## RoboPod launched

Miuro follows you around, serenading you with your favourite tunes

**T**he tidal-wave of iPod docks arriving in the PCFormat office has almost buried us alive, but none of the ones we've seen are able to move about on their own. That could soon change with the appearance of Miuro, an iPod dock that can move around under its own steam, dancing and blaring our music. The robo-egg iPod dock (whose name apparently stands for "music innovation based on utility robot technology") is currently on sale in Japan only, and costs a startling \$950 (or £470), although it is available in a range of pleasingly primary colours.

The tiny tune-bot can be controlled via a remote control, or allowed to perambulate on its own.

Motion sensors and on-board cameras mean that it can follow you around, allowing you to take your iPod for a walk. Will robots one day be in charge of our MP3s? Looking at what gets played round here we hope so... [miuro.com](http://miuro.com)



Sentient iPods will one day rule the Earth.



## THE BEST BOOK SITES



### Bartleby

[www.bartleby.com](http://www.bartleby.com)

A comprehensive collection of online literature, from significant classics to contemporary reference works. All literary interests are catered for here.

### Google Books

[books.google.com](http://books.google.com)

Sure to take over the Earth within seconds, Google's controversial online library service offers free access to searchable scans of kerjillions of books.

### The Online Books Page

[onlinebooks.library.upenn.edu](http://onlinebooks.library.upenn.edu)

Acting as a hub, The Online Books Page is a fully searchable collection of links to freely available books that can be found on the internet.

### Litrix

[www.litrix.com](http://www.litrix.com)

Edited by novelist Stan Jones, Litrix is a simple and effective source for free, out-of-copyright works, from William Shakespeare to Jane Austin and Edgar Allen Poe.

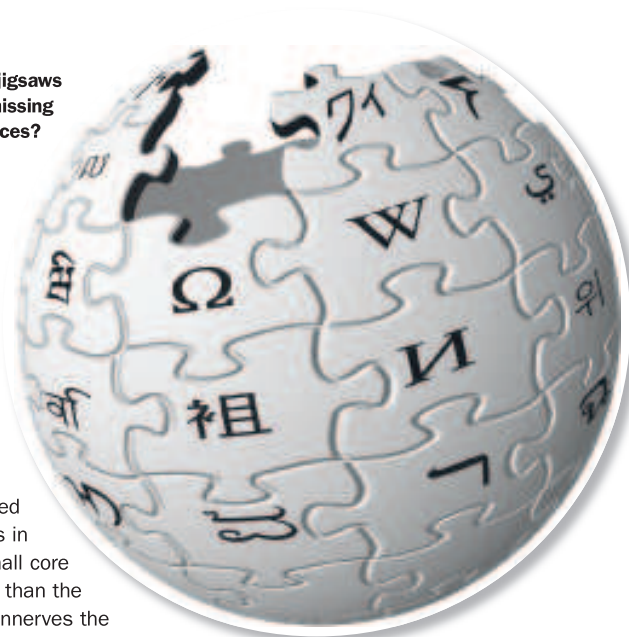
# The webpages

## ONLINE OCCURENCES

### Who writes Wikipedia?

The online encyclopaedia isn't the work of the few at all

Why are jigsaws always missing a few pieces?



#### The online encyclopaedia

Wikipedia has maintained a tone of controversy, as it walks the line between an object of mistrust, and the greatest achievement of mankind since the dawn of the information age. As the elections for positions on the board at Wikimedia take place, we take a look at some research into who it is that writes Wikipedia. Is it really the work of only a thousand or so dominant users, or might this be a myth?

The beauty of a wiki is that it can be edited by anyone who reads it, and

such freedom immediately attracts the mistrust of many. Until now, Wikipedia frontman James Wales has reassured the worried that the site is in fact the work of a very small core of dedicated users, rather than the universal free-for-all that unnerves the wary. Aaron Swartz ([www.aaronsw.com](http://www.aaronsw.com)), Wikipedian and candidate in the current elections, has recently challenged such assertions.

Wales reached his conclusion by checking to see who made the most

edits, and was surprised to see that 50% of the changes were made by only 0.7% of the registered users; around 524 people. He also said that 2% (around 1,400 people) were



### Customer Service GET HUMAN

According to a recent survey that we just made up, the average person spends over 40,000 hours a week on hold. There is no human alive who does not share in the fury at a company's phone system requiring that they work their way through 17 different recorded menus to find anyone halfway human to talk to. The firm does *not* value your call, and you are *not* very important. If you were, your call would be answered in the first place.

Fortunately, Get Human is looking to change all this. Not only has it started an campaign to seek effective change in telephonic service (even Microsoft is on board), but it also provides a list of tricks and cheats to thwart the audio labyrinths. The UK list is small at the moment, but growing. Dial #3\*99 for more details.

[www.gethuman.com/uk](http://www.gethuman.com/uk)



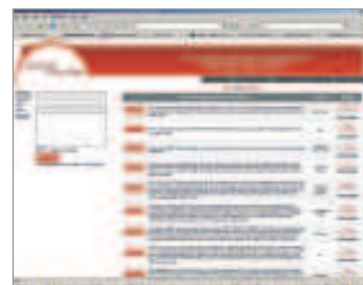
### Safe Sleep ARMOR OF GOD PJS

What is it with religious folk, and a lack of appreciation for metaphor? Inspired by a popular book in American called The Bible, and particularly chapter Ephesians, subsection 6, rooms 10-18, the Armor Of God Pyjamas (oh yes) are the ideal physical incarnation of allegory for all sleepy children.

It's the bit that goes, "Stand firm then, with the belt of truth buckled around your waist, with the breastplate of righteousness in place," and so on. The idea pinged into existence as one mother read the words to her kid at night.

The site claims that the PJs, combined with Jesus, will keep children secure at night. But then confusingly says they should be replaced by the metaphorical version for daytime. Maybe it's a vampire thing. Only \$40 plus shipping!

[www.armorofgodpjs.com](http://www.armorofgodpjs.com)



### Revenge ANNOYING COWORKER

There's "Your nauseating sweetness and kindness is obviously very fake." Then there's "Just the sight of the boss can make you ooze like sticky sap on flypaper." And not forgetting, "FLUSH THE DAMN TOILET! Although you may consider what you create to be a work of art, no one else shares your sentiments." Words of true wisdom.

There's something we all secretly want to say to our colleagues, but know we never could. Annoying Coworker provides a free and unfriendly service, emailing your chosen foil with those brutal truths you've long desired to deliver, and those that they so desperately deserve to hear, but completely anonymously.

And of course far more entertaining is reading through the log of the complaints sent, as truth + anonymity = pure vitriol.

[www.annoyingcoworker.com](http://www.annoyingcoworker.com)

responsible for 75% of the edits, the final 25% being minor spelling changes, vandalisations and corrections, by the larger user base.

## WHY BOTHER?

However, some attending Wales' talk given at Stanford University were suspicious. Rather than counting edits, they suggested it would be more revealing to count the amount of text contributed. Aaron Swartz decided to pursue this. Writing a program to filter through results, and hiring time on a computer cluster, he downloaded the complete archives to count the number of letters contributed by each user. The results dramatically contradict Wales' attempts at soothing.

Using randomly selected articles (the 60 billion total edits would take rather longer to study, we fear), Swartz discovered that the vast majority of words in entries were written by unregistered users who had made the fewest edits. His results reveal that while a dedicated core certainly make the majority of Wikipedia's edits, these are for grammar, spelling and so on, while the bulk of the content is written by one-time users. It is, as so many fear, a work of the world at large.

The implications of this finding are very interesting for those who argue that Wikipedia is an untrustworthy

operation, or those who wish to prevent its universal editing in order to protect against possibly defamatory or libellous entries.

It seems that we can no longer cling to the idea that Wikipedia is under tight control. And yet, as Swartz notes, "here's the funny thing: the site works anyway." **PCF**

**"The vast majority of entries are by unregistered Wikipedians"**



## STRIKE! BOWLING PIN ART

Asbury Lanes is a bowling alley and live music venue just south of New York. In a country where bowling is taken slightly more seriously than our own, the alley seems to exude the cool nature of those most indie of clubs, while also letting you knock over pins with heavy balls.

But such pointless promotion is not why we're here. It's because of their recent bowling pin art exhibition that our cursors arrive on their site. Displayed on shelves around the walls of the building, looking somewhat like the results of a twisted school project, the handsomely decorated pins demonstrate some remarkable talent.

There's a morbid tone to the gallery, especially the pin that's been chopped in half. But the quality is astonishing.

[www.asburylanes.com/galleries/pins](http://www.asburylanes.com/galleries/pins)

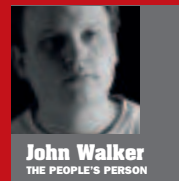


## Internet Superstars WE ARE THE WEB

As you may have read about in these pages, there's a large fight going on at the moment between those that own the pipes through which the internet is squirted, and the large businesses who rely on the web. But there's also the interests of the smaller internet user – you and us – who might find themselves charged more for simply browsing.

What better way to fight against this than getting together some of the most famous internet cult figures, and having them make a music video? Any other way, that is what. We Are The Web is the monstrous result of combining gem-jumper lady Leslie Hall, the super-fey Peter Pan costume dude, Asian Backstreet Boys, the B3ta kittens, and yes, the Tron Guy. Our poor minds. Suddenly we're supporting the evil telcos.

[wearetheweb.org](http://wearetheweb.org)



John Walker  
THE PEOPLE'S PERSON

# Copyright watch

John Walker reckons that the movie industry has gone mad. Who's to argue?

**B**oth humour and concern have arisen from a moment in the awful *Miami Vice* movie, where an attempt to scare us about piracy reduced us to tears of laughter.

While listing the horrors of what terrorists are up to, along with drug trafficking suddenly was "pirate software". The RIAA/MPAA's attempt to claim that piracy funds terrorism was laughed off last year as the sad attempt to latch onto the baddie du jour it truly was.

But there it was, bold as brass, in one of the summer's blockbusters. Was it a plant by the industry, stuck in there as a peculiar attempt at underhanded brainwashing? Or, even worse, did the script writers actually believe the nonsense previously published? Either way, it was a strange appearance of one of the dumbest anti-piracy campaigns we've seen.

Meanwhile, the British Phonographic Industry has been grumbling again. Its been asking ISPs to suspend accounts of customers who have been uploading a "significant" number of files. Both Tiscali and Cable & Wireless will comply, and as many as 59 accounts may end up being suspended.

Even more recently, the BPI has shifted attention to

the rather more obviously illegal practice of selling pirated CDs. Arguing that intellectual property should come higher on the police's agenda, the BPI doesn't offer what should therefore be lower on such agendas, but they are claiming that such pirated CDs are causing a £165 million loss in sales each year. (That's £165 million in the pockets of the terrorists, presumably). CW supports this shift in focus by the BPI, who have currently sued over 130 individuals (four reaching court, 111 settled out of court) for the non-profit sharing of music. Tackling those *making money* from illegally copied CDs, rather than those who try before they buy, seems a far more effective approach.

This month's Copyright Watch homework, should you accept it: Go see a live, unsigned band. **PCF**

**Gun-running, drug-trafficking and dodgy copies of Excel. Really?**



Picture Chris Garbutt





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# DAWN OF WAR

## DARK CRUSADE™

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THE ORIGINAL DAWN OF WAR

# PCFMail

## DISCUSS HOT TOPICS AT

## Mail of the month

Since buying your magazine in August 2003 I have never missed a single issue, so I know that you've never received a begging letter in all this time.

Let me set the scene: since getting married and a little one coming along we've not had chance to go on holiday abroad in the past five years, so when a week away in Spain came around I made sure I had the latest copy for reading abroad. Due to the holiday not starting until the end of the

month I removed the disc, hiding it away so I wouldn't spoil the mag and placed my precious copy into my suitcase, it stayed there for a whole two weeks which really killed me!

On holiday with a two year-old the only thing that kept me sane was my well-thumbed copy of the latest PCFormat!

I totally enjoyed the issue and read it back to front several times and the best part was the disaster recovery section, on the last day of our holiday to help my wife I went lizard hunting with my child, so she could pack in peace. Once home I ripped three cases and a pram bag to bits, only to discover no mag. I really love PCF but I simply can't afford to spend over £10 this month just to keep my library up to date.

Is there anything you can do to help my situation, guys?

**STEVEN HARKER**  
steven\_harker@talk21.com

**OVER TO YOU**  
Gripes about games or hardware? You're not alone. Check out p.164



**PCF says** How can we turn down such a heartfelt plea? You'll find a pristine new magazine winging its way to you in due course, along with a USB memory key to make up for your tale of woe.



**crucial**  
TECHNOLOGY  
A Division of Micron

## Mail in and win

We've teamed up with ace memory supplier Crucial [www.crucial.com/uk](http://www.crucial.com/uk) to give the author of our letter of the month a fantastic 512MB Gizmo! USB memory drive worth over £30. It works flawlessly with every version of Windows after Me.

You can air your views and write to the team at PCF Mail, PCFormat, 30 Monmouth Street, Bath, BA1 2BW, or via email at the address below. Or you can visit our forum at [forum.pcformat.co.uk](http://forum.pcformat.co.uk).

[pcfmail@futurenet.co.uk](mailto:pcfmail@futurenet.co.uk)

## Emptor advisor

I've just bought your latest mag and I'm impressed with it. I may even subscribe! By sheer chance it was

reviewing graphics cards, mobos and hard drives, and I'm about to embark on a project to build a high-end system to run the top-end version of MS Vista when it hits the high street.



**GET PCF THE  
EASY WAY!**  
SUBSCRIBE ON PAGE 150



**forum.pcformat.co.uk**



Our Alienware compo  
has got tongues  
wagging, it seems.

I'll be using it for the occasional game, but mainly for graphics-intensive presentations, photo-manipulation and so on, and I was wondering if you could help me out with hardware recommendations? I'm planning on at least 2GB of RAM, probably more, and I'm thinking about running RAID 1 on twin SATA 250GB hard drives.

Budget isn't really a factor - I'm planning to stagger the acquisition of parts over about six months so I can buy the best.

**DUNCAN**  
**Duncan.Taws@westsussex.gov.uk**

**PCF says** We have only one word for you. Conroe. Whatever you buy, make sure it's Intel's Core 2 Duo and you can't go wrong. Might be best off waiting for the next-gen of graphics cards (next month) though. As for RAID setups, there's no real speed benefit, but using RAID 1 for backup is a no-brainer if you can afford two drives.

## Alien? Where?

I went in for your text bidding competition today. I calculated that no matter how much money I spent on bidding, I would still be better off in the end. So I started off at 22p and got the reply that this was higher than the lowest unique bid. I lowered to 14p and got the same response. Deciding that the prize was still bigger than the initial loss of a maximum of about £15, I dramatically lowered to 2p. My bid of 2p matched the lowest bid. So I increased to 3p. However I was told that my bid of 3p was higher than the lowest unique bid. This led me to the conclusion that

the only thing lower than 3p that isn't 2p is 1p. After I tried lowering to 1p I was told that although it was the lowest bid, it was not unique. So I thought I'd email you my sad tale and wondered if I could blame anything other than my own gullibility. Surely there is something wrong with this whole system? Thanks for reading.

**WILL ARVESCHOU**

**PCF says** Your logic is sound when it comes to bidding budgets Will, but the problem is starting early won't help you. We can only guess that while placing your bids, someone else was also following the same strategy - with this one you're best off leaving it to the last minute to find the remaining numbers left. See what he's talking about on page 160.

## A fair cop

Just read through the mag and enjoyed the PSU article. However, there's one error in it. In the "What's going on in there?" boxout, the entry for what the transformers do is incorrect.

Transformers convert one AC voltage into another, such as changing 240v AC into 12v AC. They don't convert to DC. This is performed by a diode bridge which rectifies the AC signal and converts it to DC (with a smoothing capacitor). You might want to correct this next issue.

**DAVE KNIGHT**  
**d.c.knight@durham.ac.uk**

**PCF says** Thanks to everyone who pointed this out. AI's been forced to lick live transformers until he realises his mistake.



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# TESTED TO

# DESTRUCTION



How much of a pounding can your kit really take? Join us as we light the fuse, lower our goggles, and peer closely

## DISCLAIMER

Some of the following tests are potentially lethal, and were therefore conducted under the auspices of trained professionals using the strictest of safety measures. You know the score **DON'T TRY THIS AT HOME!**

## Our panel of scientists



**Dave**

**Areas of specialism**  
Magnetic field theory,  
Brownian overkill



**Mike**

**Areas of specialism**  
Electricity, conductivity,  
giggling



**Al**

**Areas of specialism**  
Thermal differentials,  
chemical abuse



**James**

**Areas of specialism**  
Explosive reactions,  
kinetics, shooting stuff



**Adam**

**Areas of specialism**  
Combustibles, kinetic  
impact, rig-heisting

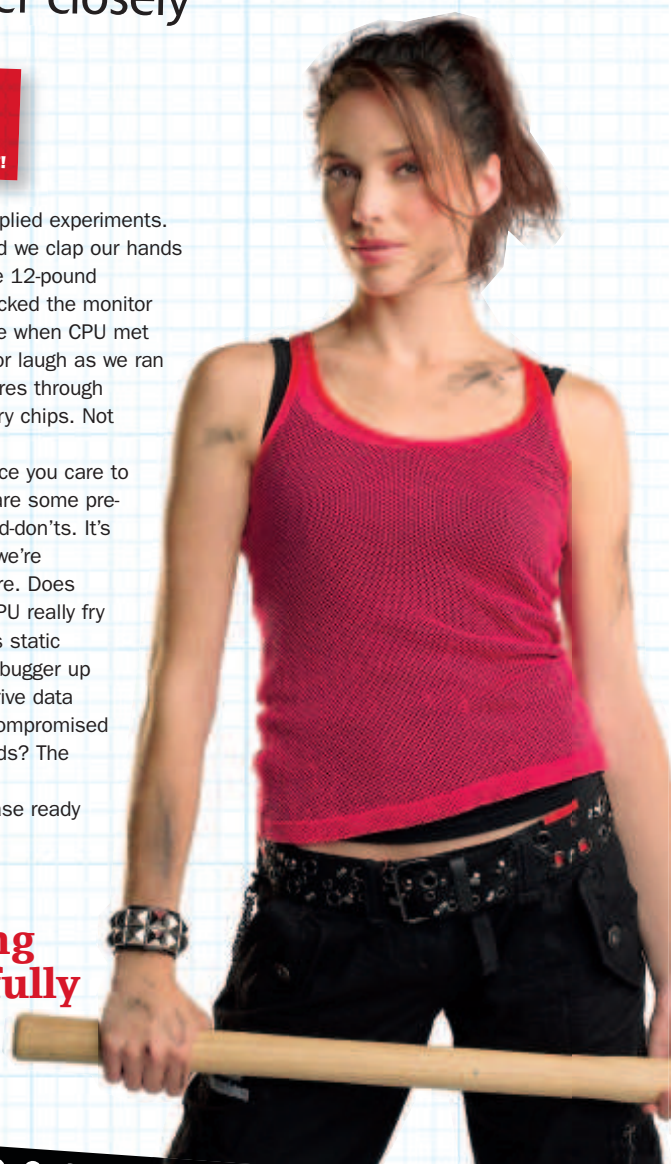
**T**he Maquis de Sade once wrote: "Destruction, like creation, is one of nature's mandates." Ballgag-munching whoopsie he may have been, but in this matter, we can all agree with his views. For destruction is the final destination of all complex systems; the answer to the question that creation poses. What we want to know is this: what happens when you go beyond the warranty, and subject PC components to a lifetime of stress in a single event?

A fine question, and one that, over the next seven pages, our crack team of amateur scientists will endeavour to answer in the most creative ways possible. For we are men of science: inquisitive minds, seeking revelation through a series of carefully planned and

appropriately applied experiments. And not once did we clap our hands in glee when the 12-pound cannonball smacked the monitor face-on, or giggle when CPU met liquid nitrogen, or laugh as we ran countless amperes through sensitive memory chips. Not once. Honest.

For any device you care to mention, there are some pre-requisite dos-and-don'ts. It's the don'ts that we're interested in here. Does overheating a CPU really fry its brains? Does static electricity really bugger up RAM? Is hard drive data integrity really compromised by magnetic fields? The truth is in here. Gentlemen, please ready your clipboards.

**"We are men of science:  
inquisitive minds, seeking  
revelation through carefully  
planned experiments"**





## Overcooling

**S**o if heat is good, cold is bad, right? With this most serious of questions in mind, we hopped in the PCF-mobile and plowdered our way up the M4 to the space science research centre at the Rutherford Appleton laboratories in Chilton. There, we were greeted by Facility Ops Manager Giles Case, and led into an area that was so Black Mesa, it gave us flashbacks.

We wanted to get a CPU as cold as we could, and the only substance that can do that is your friend and ours, liquid nitrogen. With a boiling point of 77.2 Kelvins (-196°C, pop pickers), this plucky element is so cold, it hurts. Literally. Although we didn't dip our fingers in to find out.

Donning face-shield, labcoat and gloves, we lassooed the unsuspecting chip with a piece of wire, and lowered it into a pot of the stuff, where it promptly bubbled like a vindaloo tum – at room temperature, the chip was literally boiling the nitrogen. When the hubbub died down, out it came, and immediately began frosting like an ice-pop as the ambient moisture froze around it. We let the poor thing warm back up to room temperature, and all seemed well.

Our test rig didn't agree, however: another non-starter. Giles explained to us that thermal shock would be the likely candidate for non-function, as it would likely fracture the epoxy PCB upon which the CPU sits. Looks like the man was bang-on.

**CHEERS!** Many thanks to the Rutherford Appleton laboratories for accommodating our experiments. See them at [www.cclrc.ac.uk](http://www.cclrc.ac.uk).



This is a serious business – one that required AI to wear a very silly hat.



Liquid nitrogen is happiest at around -273°C. How will our PC parts cope?



Like the geek equivalent of dipping a Rich Tea in your morning coffee, really.

## CPUS D'you want chips with that?

**T**he risk of burning out your processor rides the shoulder of every budding overclocker like the ghost of Christmas future. But assuming you're sensible and apply incremental setting changes, and you have a cooler of some kind attached, CPUs are actually pretty hard to burn out.

Poppycock! At least, that's what we surmised. Surely extreme temperatures are going to do some damage somewhere? Given that we've run a Pentium IV 3.8GHz CPU to 98°C in the past – while testing a rather dreadful Thermaltake copper cooler – we thought we'd go one step beyond. Actually, we thought we'd go 100% beyond, and get a processor up to 200°C

And so off to the PCF house of horrors we went. Out came the baking tray, and on went the oven – to gas mark six. And like all good chefs, we gave the hot-box a good preheating first. Heh.

But hard science requires brain energy, and that comes from a full belly, so in no time at all, our Sempron 3600+ found itself bedding down with some onion

rings and crinkle-cut chips for a cosy cook-up.

Half an hour later, out it all came. And while the crispy snacks went down a treat, the CPU was a disappointment. After cooling it to room temperature, we popped it back in its slot and fired up the PC, at which point it simply shut itself down again. No dice; our processor had cached in its chips.



PCFormat's new diet, day one: to be honest, we'd have liked a few more chips.



Verdict: Dead



Verdict: Dead

Leave on a baking tray at the centre of a warm oven until light or golden brown, then reboot.



# Hard Drives Hard by name, hard by nature

**H**ard drives, with their magnetically arranged storage of data, have always been seen as more than a little vulnerable to magnetic fields. But just how vulnerable? With memories of CRT screens bugged up by the proximity of large speakers either side fresh in our minds, we wondered what would happen if we tried the same with a hard drive. Using a bog-standard hi-fi from Grint & Sons Ltd didn't feel right, so we tasked a friend of PCF, who just happened to have a large set of bass bins sitting in his bedroom, to help us out.

We ran our test PC sat between the stacks, and the drive accessed with no fussing or fighting, so out came the drive and speaker cone, for a bit of one-on-one time. Surely now we could get a

rise out of the irked drive? Apparently not – even after attaching the magnets directly to the drive, it still worked.

Deflated, but not deterred, we set out in search of larger magnets, adamant that the precious data sitting on our drive was going to get mashed up, sucked out and irretrievably munched. Inspiration hit us like Dark Superman striking his powerless alter ego in *Superman II*, and we remembered the scrapyards.

A few calls later, a short period of negotiation, and a willing donation to JW Ransome & Sons' regular charity, CLIC – the UK's leading children's cancer charity – we had ourselves the use of an industrial electromagnet. This beast can pick up dead cars, for goodness' sake – surely it would rip out the guts of our drive?

We watched the monster power up its dynamo and hover the magnetic head a foot above the stubborn drive. With a tug on a lever the drive was picked up, along with assorted metal debris, swung around and dropped onto the unforgiving concrete.

Scratched and dusty, we plugged it back in our rig and tried to boot. The redoubtable little disk whirled into life and within seconds, it had loaded up XP without a solitary problem. Full of admiration for the plucky drive, we spared it further tortures, and admitted defeat.



**Verdict: Survived!**

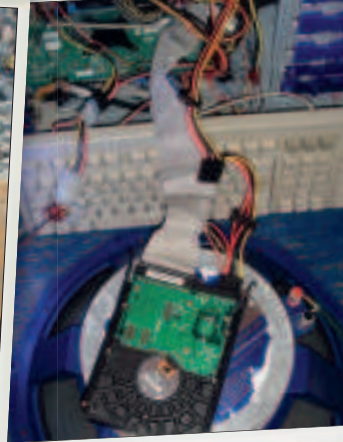
This magnet can lift a knackered Datsun, but it can't finish off a hard drive. Now *that's* odd.



The moral of the tale? Hard drives are nails, folks.



Hard drives are notoriously susceptible to magnets, right?



The magnetism in these bassbins does its utmost to wreck our data.

**"The drive was picked up, swung around and then dropped onto the concrete"**



Even flinging it onto concrete couldn't seriously harm the redoubtable drive. Hats off.



Even after this severe going-over, the drive and data survived.



**Verdict: Survived!**

## Plugging the gap

**A**ny hard drive requires a certain air pressure in order to keep the head at the correct scanning height. Working like the wing of a plane, if the pressure is too low there won't be enough lift to keep the head at the correct height above the physical disk, and the drive will fail.

On every hard drive there's a breather hole, next to which is usually a sticker saying 'do not cover'. This is the head's link to the outside world and thus, normal

air pressure. So what happens if you throw caution to the wind and get crazy with the commercial tape? Well, we stuffed the hole (tee hee) and tested the drive using burn-in software to run full-load tests for 15 minutes at a time. While there was some performance degradation, there was nothing to suggest that failure was imminent, but then, as Mr. Palahniuk once wrote: "on a long enough time line, the survival rate for everyone will drop to zero."





# RAM Trial by Van De Graaff

**T**earing open the box of your new component and tackling the hermetically-sealed anti-static bag, which keeps valuable kit safe from the electricity that is potentially dancing on your fingertips, is a joy in itself. We've all heard that static and PCs share a similar relationship to bulls and china shops, but we thought we'd put the theory to the test with the biggest static generator we could lay our hands on.

Of course, there is a reasonably easy way to generate static; shuffle around in your socks on a thick pile-carpet and then touch a door handle to engender a spark. Kinckers to that; we wanted proper Emperor-from-Star-Wars-style-electricity to zap our piece of

unsuspecting RAM. So we went to the professionals.

Dr Frankenstein was away from his desk, and Nikolai Tesla was having his hair done, so we nipped across the road to the local City of Bath College ([www.citybathcoll.ac.uk](http://www.citybathcoll.ac.uk)) and enlisted the help of Head of Science Dr Tony Wilde. Amongst his various bits of exciting equipment is a Van de Graaff generator, which wouldn't look out of place in a power station, and generates spectacular bolts of static electricity.

Before we started waving components near the fizzing silver globe, we thought we'd test it was working with the control dome and were rewarded with a massive electrical tendril leaping across a sizeable gap. Satisfied that physics was firing on all cylinders, we then introduced 256MB of RAM to the equation. Waving it close to the generator, we were rewarded with bristling electricity jumping to the

memory modules. We made sure we gave it a good, even roasting, with every contact along the length of the stick treated to its own electrical episode.

And the result? It still worked! Much to our disdain, as our PC ran happily for hours on that stick alone. Which leaves us wondering, if it's this difficult to destroy RAM with the charge generated by a Van de Graff generator, how likely is it you'll accidentally fry it during an ordinary PC build?



See that? That's real, live electricity, that is. Your humble RAM can cope with it, though.

## Van De who?

Weren't they a prog rock band?

The Van de Graaff generator, invented by Robert J Van de Graaff in 1929, uses the static generated by a spinning dielectric belt to positively charge the hollow metal globe. The introduction of an earthed piece of

metal nearby, such as our RAM, draws an arc of electricity from the globe when the voltage reaches a point where it can breach the gap between them. Now that's impressive.



Verdict: Survived!



Verdict: Dead

## The Honeypot

**S**o, how long does it take for a virgin computer to become sullied by the evils of the internet?

By all accounts not long, but being the inquiring minds that we are, we had to see for ourselves. Taking a pristine hard drive and installing a minty fresh copy of Windows XP, we made a conscious decision to banish all thoughts of auto-updates, Windows firewall and anti-malware protection.

To begin with, everything was rosy in our newly installed virtual world. Internet Explorer awakened with nary a snuffle or judder, and off we went in pursuit of webbery. For a couple of hours. That was

all it took for the wheels to fall off our beleaguered PC.

The first we saw was a couple of pop-ups and some cheeky anti-virus company flashing fatal warnings on-screen. Then IE just fell over. Restarting the browser got it working, but it denied that we had an internet connection, even though Windows assured us it was working fine. OK, reboot then.

After the cheery chimes had died, we knew it was only a matter of time before the PC did too. Unknown programs loading into the system memory popped up on-screen and vanished just as quickly, but left us with the feeling the test was nearly over. And so it proved, when IE would only work in ten minute bursts, its short lifetime filled with dire warnings of impending doom and an infinity of smiley-hawking pop-ups. Each



Two and a half hours from fresh install to total system collapse. Terrifying stuff.

collapse required a reboot. On a Spybot check, 188 pieces of malware were detected: enough to render the PC unusable.

The final time of death? Two hours thirty minutes.





# The C3PO oil bath

**W**e've all established that dunking your PC in water is a bad thing. In about the amount of time that it takes your brain to tell your finger to hit the power switch, you'd have what amounts to a bubbling pile of scrap in a bath. The reason is not that electricity and liquid don't mix per se, it's that water is a conductive liquid. If you could find a liquid that could dissipate the heat without conducting the electricity, you could have an entirely submerged PC that would run cool.

This was the thought that raced through the head of flying Dutchman Ebo Eppenga while arranging a party for himself and techy pals Matthijs van der Plaats and Anton Dijkstra. "Anton, Matthijs and myself organise a party for ourselves every three months usually," explained Ebo. "These parties tend to have a theme. Preparations are made a long time in advance and this time I stumbled upon the idea of making a PC completely silent."

So where did the inspiration for an oil-

based PC come from? "As a child I always took everything apart and I suddenly remembered that I once demolished a transformer and it had oil inside it. I remembered that my dad told me that it was for cooling the transformer. Then I was thinking, what's this oil? Can we use it somehow?"

Being Men Of Science, some thought obviously had to go into the process. "We had no clue what kinds of oil did not conduct electricity. So we bought various kinds of oil and it turned out that peanut oil is a really good electrical insulator. It's also one of the cheapest oils in the supermarket."

So there you go. A trip to Sainsbury's, and you too could have a silent, totally submerged PC. Just don't get carried away and dunk the hard disk or optical drive in there, because their moving parts don't take kindly to sloshing about in oil.

If you need more help replicating this madness, visit [www.eppenga.com/liquidpc-tech](http://www.eppenga.com/liquidpc-tech).

Just don't come crying to us if your PC doesn't take to bathing.



Every atom of our being tells us this is wrong. But those crazy Dutchmen did it anyway.



Verdict: Survived!

**"One trip to Sainsbury's, and you could have a totally silent, submerged PC"**

## What happened next?

Ebo Eppenga reveals all...

"We ran the system for three or four hours I think, but not because it failed. Mainly because we were bored and decided to give the computer a beer as well. At that moment in time, we were thirsty and we thought the computer could use a beer"

too after all this oil. That destroyed it in seconds." Nice to know the boys hadn't forgotten the party spirit in the midst of all this technical innovation.



## Better by design?

**O**f course, if you're really worried about the fragility of your PC, you could opt for a pre-ruggedised system instead. We've looked at the Panasonic ToughBook before, but here's a new kid on the block, the General Electronics GoBook XR-1.

Based on a Core Duo processor the only thing that's going to stop you being able to play *Quake* in the middle of the desert or from within a vat of bleach\*. That and your own resistance to temperature and chemical extremes. But then with built-in GPS, wireless and military grade ruggedness, you'll probably not want to be distracted by games



The GE GoBook XR-1: truly the playground bully of the laptop computing world.

International peacekeepers and mercenary forces can find out more at [www.gd-computing.com](http://www.gd-computing.com).

\* Yes, you can immerse the GoBook in bleach and still boot it. Impressive, huh?

## Drop the bass

Hard drives are sensitive things, right? So what happens when you subject one to everyday shocks? We dropped a Goodmans PMP onto three surfaces: carpet, laminate flooring and tarmac, all from

shoulder height. While the chassis took more damage than would be seemly if you pulled it out on the train, the storage and playback functions were unaffected. Hard drives: harder than you think!



Verdict: Survived!



## How dangerous is dust?

**P**ersonal experience means PCFormat can confirm that household dust causes PCs to overheat. More than once, we've repaired a broken rig just by running the vacuum over the CPU fan. Dust traps heat, and as we all know, heat is bad (see tests passim).

But is dust also a fire risk? It certainly seems like it should be – small particles of flammable material floating around electrical circuits can't be good, and many is the night that we've spent awake wondering if our download box is going to burst into flames while we're in the Land of Nod.

Still, we've also watched the sun rise through the cracks in our curtains wondering whether or not we've contracted diseases from an unwashed handrail on the local Park & Ride, so it's fair to say we're quite unusually paranoid.

The question remains, though. What if enough dust got into a PSU to short it out, would it immolate us all? So we took a test PC and a bag of dust from our vacuum cleaner to our local fire station to see if our fears were real. To the amusement of the gathered crowd of firefighters (many thanks to all at Station 12 in Bath for helping out, by the way), nothing happened. No flames, not even a desktop crash.

So how dangerous is dust? We wouldn't recommend letting the inside your PC get too filthy, but more for hygiene and cooling reasons than any real fire risk.



Will your dusty PC explode in the night?



**Verdict: Survived!**

## LCD monitor and chassis: Volley and thunder!

**W**ith two of the largest pieces of kit in this test entrusted to Games Ed Carey's legendary capacity for calamity, it was time to light the blue touch-paper of his imagination and retire to a safe distance. Somewhere in orbit seemed like a good bet, but then James started calling X-prize candidates, so we thought better of it. Little did we know the only thing that could save us was the US cavalry.

**0900 Hrs  
Call to Arms**

Petty Officer Carey and PFC Partridge assemble for duty at PCFormat HQ. Their mission: To destroy an armour-plated PC case and a standard LCD monitor. Legend has it that an LCD screen can stop a bullet, but legend never said how *big* that bullet could be, now did it?

**1100 Hrs  
Pass Muster**

Our lads arrive at the battlefield for muster. Woefully underdressed, they rallied the troops of the

Southern Skirmish Association (Confederates, natch) and prepared arms. They figured a 12-pound Civil War cannon should do the trick...

**1145 Hrs  
Safety First**

The troop was fully briefed, and when the laughter finally died down, the crack Artillery section of SOSKAN decided that what PCF's plan was too dangerous for the designated field of action and moved us, the 12-pounder and the kit to a quiet copse nearby. This was so that no-one taking part in the large battle next door could get hurt.

**1200 Hrs  
Ready to Fire!**

Despite our fearless photographer doing his best to get into the line of fire ("but I can't see *anything* from here!"), the boys from PCF lined up safely behind the cannon. Sentries were posted at all

entrances to the copse and the gun was loaded. With the tough-looking monitor in place atop a stepladder, all that remained was to pull the pin.

**1205 Hrs  
Misfire!**

It was all laughter and



**It might look like something Custer would use to make a point, but could it crack our LCD? Nope.**

jokes at first, and then the cannon misfired. The black powder charge had failed to ignite leaving the breach lethally full. Gingerly, one brave soul of the SOSKAN artillery fetched a ramrod and fed it into the barrel. All held their breath as he thumped the charge soundly, then slowly backed away. "First time that's happened all year." He said, mopping his brow.

**1210 Hrs  
'SPLODES!**

The second attempt went without a hitch. With a mighty roar the 12-pounder split the air, and levelled the monitor-crowned stepladder. When the sulphurous smoke cleared, men clustered round to

**"After four more volleys with double charges, the monitor was uncracked"**



**Sustained artillery fire at close-range couldn't keep our plucky little monitor down.**







Ah the whiff of cordite in the air, as one brave soul steps up to light the fuse...



BANG! Fire in the hole, etc. No boggo PC monitor could withstand such a blast, surely?



After a swift headcount, we went to inspect the damage...



Yup, there was a hell of a lot of smoke, but our chassis went out with a reassuringly loud bang.



Furious at the screen's survival, PCF's chums took to it with bayonets.



## "With a roar, the 12-pounder split the air, and levelled the monitor-crowned stepladder"

inspect the inevitable damage. Amazingly, the LCD screen was still fully intact!

1212-1230 Hrs  
Mythed!

They thought to explode a monitor and a bullet-proof myth along with it, but after *four more volleys*, at decreasing ranges, and eventually with double-charges, the monitor came through uncracked! Pitted, yes. Burnt and blackened, true, but displaying a somewhat miraculous resistance to everything they could throw at it. This monitor deserved some reprieve.

1245 Hrs  
Armour!

Next up was the armour-plated PC. This case has an angled steel front plate and seemed way too smug with its own tough-nut image. It may look hard from the front, but as any artilleryman worth his salt will tell you, you don't hit an armoured target from the front, you go in round the back.

1250 Hrs  
They don't like it up 'em...

"It was the blast pressure what did it", said the men from SOSKAN after the event. The shockwave had

entered the case from the rear fan vent, and exploded the case from the inside, forcing the sides off and sending the front panel a good 10 meters away. Yay!

1300 Hrs  
Fix bayonets

As they were packing up, the men of SOSKAN confessed that their honour was not being upheld. The case had snuffed it, but the resistance of that monitor irked our cannon-toting chums. PCF convinced them that the LCD deserved a stay of execution, but thought it was only fair they prove their indefatigability on another subject. Bayonets drawn, they went at it with some gusto.



Verdict: Dead

Many, many thanks to the Southern Skirmish Association, US Civil War charity and all-round top blokes. Visit [www.soskan.co.uk](http://www.soskan.co.uk) to find out more.







# TESTED TO DISTRACTION



CONTROL LAP  
LAP TIME: 1.35.484



THE LADIES LAP  
LAP TIME: 1.44.699

Mike Channell tentatively slides into the driver's seat for a test of concentration, determination and, bizarrely, chastity...



THE EXPLOSIVE LAP  
LAP TIME: 1.37.535



THE WET LAP  
LAP TIME: 1.37.675

**W**e've seen how PCs can withstand destruction, but how well do users deal with distractions? What kind of pressures can a human being take before dropping a few kills in *Quake*? What's the best way to throw a decent player off his game? Unable to contact Fatal1ty to find out, we decided to find out how well car-mad Mike could fend off our attempts to ruin his *GTR2* laptimes.

Unfortunately, for what Acting Art Ed Dave and Games Ed James had planned, the fireproof race suit – kindly provided by [www.racewear.co.uk](http://www.racewear.co.uk) – would provide little protection. Hasty promises were made about the degree of bodily harm that would befall the chipper staff writer and the challenge begun.

Lapping around Donington Park was the task set before the unlucky guinea pig, but which of the torturous physical and psychological attacks would result in Mike being, quite literally, driven to distraction?

## CONTROL LAP

Mike fancies himself as something of a racing driver, but unfortunately, much like Maverick in *Top Gun*, his ego is writing cheques his body can't cash. The venue was to be

the Donington race circuit, and his steed would be the noble Porsche 911 GT3 RSR, which doesn't misbehave too much on turn-in and, if the back steps out, it's easily caught. Mike figured that he ought to minimise the risk of cocking it up on his own and even entertained the thought that he might improve as the challenges mounted. Of course, this was still during the phase when cheery Channell didn't know the horrors that would be visited upon him. **TIME: 1.35.484**

**"It's clear Mike would make a reasonable warzone driver should the revolution start tomorrow"**

## THE LOVELY LADIES OF ANSWERS

While you might consider *PCFormat* a collection of entirely asexual beings, the truth is that we have loins like the rest of you. In fact, some of the team have even ventured as far as claiming a ladyfriend. One such member is Mike, who was heard lamely bleating "My girlfriend has to read this, you know" while being seduced/lightly dusted by Sophie and Tanya from *PC Answers* magazine. As Carey quite rightly asserted at the time, if this was Mike's slowest lap of the day, he'd be in deep trouble with the missus. In the end it wasn't the whispered sweet nothings that put him off, but the moment when the

duster obscured the gear indicator, causing a misshift to first and a lazy spin. **TIME: 1.44.699**

## EXPLOSIONS

It's quite clear that Mike would make a reasonable warzone driver should the revolution start tomorrow. Despite near-deafening pops caused by the scalpel-wielding Dave P and a fistful of party balloons, the plucky staff writer led his car around the circuit with aplomb, only dropping two seconds

on his original time. A teeth-rattling understeer moment on the exit to McLean's corner was the only drama in an otherwise clean lap. Even James shooting party poppers over his head did little to ruffle the wary wheelman, though the slight ringing in his damaged ears may haunt him forever. **TIME: 1.37.535**

## WATER

"To be honest," claimed Mike, "this suit is so warm that it's actually quite refreshing." Yes, the addition of water to proceedings did little to shake our unflappable charger on his quest to stay on the black bits. Of course these were hardly monsoon conditions, but instead a few squirts from a common or



garden spray bottle. Perhaps if an entire bucket of water had been lobbed over his loaf things would have been different, but as Mr Channell hails from darkest, grimmest Yorkshire, it takes more than a bit of light drizzle to put him off his stroke. **TIME: 1.37.675**

### BANJO AND SQUEAKY TOY

Perhaps the most distracting thing during this particular lap wasn't the sound made by the banjo and the squeaky dog toy, but the compassionate chap's fear for his colleagues' sanity. Carey seemed to have transformed into some kind of nightmarish fairytale imp and was thrashing the banjo like it had sworn in front of his mother. Dave, on the other hand, appeared to see nothing strange in the fact he was sporadically squeezing a toy designed to amuse an animal with the IQ of a chicken and bacon sandwich. Clearly slightly disturbed, and with memories of that scalpel, Mike put in his worst lap yet.

**TIME: 1.51.674**

### TCP

"Can I breathe through my mouth?" was the plaintive cry of our makeshift Mansell as he had an open bottle of pungent TCP waved beneath his nostrils. This stuff reeks, and the entire team had the smell clinging to their fingers for the rest of the day. The entire team except Mike, that is, who had it smeared on his face and in his ears by the sadistic Mr Partridge. Probably the reason why

he had a three-metre radius of clear space around him as he meandered down to the supermarket after work. Still, it's the cleanest he's been in weeks.

**TIME: 1.50.740**

### FLASH

Deserts are generally agreed as being the ultimate test of human endurance, and our Channell is barely strong enough to lift Ray Mears' hiking boots, let alone survive in Saharan conditions. Still, that didn't stop the PCFormat torture team from emulating the pain in as much detail as possible. Baking hot and blinding photographic lamps were trained on the put-upon scribbler's pasty white skin, with the odd full-powered flash to simulate racing into the heart of a nuclear blast. Still, Mike remained largely composed, with a time only two and a half seconds off the control lap. **TIME: 1.37.953**

### PISTACHIOS

While the original idea was to have darts whistling overhead as PCF's own Stig wrangled his Porsche around the circuit, it was quickly apparent that this might actually cause the magazine's first recorded death on duty. And if that happened, who would be



THE DELIVERANCE LAP  
LAP TIME: 1.51.674



THE TCP LAP  
LAP TIME: 1.50.740



THE CHAMPAGNE LAP  
LAP TIME: 1.53.803

left to ritually abuse next month? As a result, the lethal projectiles were replaced by nuts. Amusingly, Dave's well-honed pistachio pitching skills meant that, at one point, some of the tasty treats ended up nestled in Mike's ear. Clearly this required a hasty bit of extraction work and resulted in a bit of a wobble in the Craner Curves. **TIME: 1.38.290**

### CHAMPAGNE

We've all seen the post-race celebrations on television, with the vaguely homoerotic act of spraying each other with champagne. Well, Dave decided that we didn't need to wait until Mike left the car to start the fizz fight. Unfortunately, Format's budget doesn't stretch to Moët, nor sparkling white wine, so we went for nothing like the next best thing – 7Up. The liquid was unleashed and caused Mike to careen off the road at top speed. The torture continued with the remainder of the lemonade poured all over his battered bonce and running down the inside of his suit. Easily the worst lap of the day. **TIME: 1.53.803**

### CONCLUSION

Well, there you have it, piloting a car takes concentration and if you want to shatter it wholeheartedly, the best way is to chuck a lot of fizzy liquid in the face of the driver. Best of all, after a couple of minutes, the stickiness of bottled tooth-rot seals up the eyelids completely, meaning high-speed doom is high-on guaranteed. Now, to find a new staff writer... **PCF**



THE FLASH LAP  
LAP TIME: 1.37.953



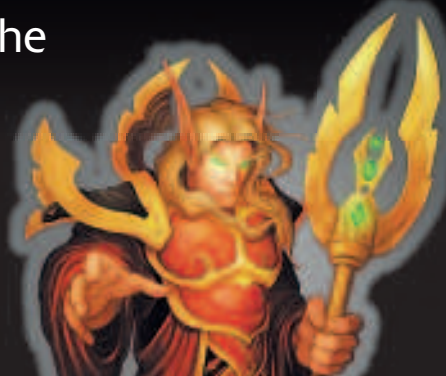
THE MISSILE LAP  
LAP TIME: 1.38.290



Prepare for



Not one to shirk responsibility and miss an opportunity to spend a hard day grinding, **Alan Dexter** gets the lowdown on the much anticipated expansion to *World of Warcraft*. No ganking at the back please...



**W**orld of Warcraft needs little by way of introduction. It defines the genre and is so outrageously enjoyable that it has often linked to drugs for addictiveness. It's the daddy of online gaming, specifically MMORPGs, and with over six and a half million subscribers worldwide (nearly two million of those in Europe) it's not too surprising then that the first expansion to roll out from the Blizzard war machine has attracted a certain level of interest.

We managed to grab Frank Pearce, the Senior Vice President of Product Development at Blizzard, to question him about what's in *The Burning Crusade*, and what it

will mean to existing players as well as new recruits. And Blizzard clearly isn't aiming this solely at diehard fans. "*Burning Crusade* is something that we hope a lot of players are going to pick up. A lot of the players that get involved with *World of Warcraft* and enjoyed the experience of levelling from one to 60, not only for the social aspect of it, but the quests and exploring the world as well."

#### CALL TO ARMS

There's plenty in there for veterans as well. "We're raising the level cap to 70, providing new zones to explore as well as lots of new quests. We hope that the development of the player from 60-70 is more of what the players are looking for." Indeed, if you're looking to embrace questing





"Why did it have to be Naga? I hate Naga..."

They're elves – you wouldn't expect them to live in caves, would you?



## Expansion over extension

*The Burning Crusade* isn't just more of the same...

The *Burning Crusade* introduces new concepts into just about every area of *WoW* – from the way PvP works (you can say goodbye to the current decaying honour system) to the talent trees that are at the heart of any character. The new races, mean that the horde will finally have access to Paladins, which will change the way PvP and RAID parties work.

The increase in the level cap will certainly make for some changes to the way the game plays as well. Outland boasts flying mounts (although sadly these can't be used elsewhere), while Jewelcrafting looks set to be the profession to learn for anyone that's exhausted their current skills, and it's powerful, too.



Expect to see a lot Blood Elf Paladins around the place...



The Caverns of Time let you visit areas before they were destroyed.



Opening The Dark Portal will be a world event involving Lord Kazzak.

## "Burning Crusade's new honour system will immediately affect everyone playing Warcraft"

once again, then expect to put in a few hours with *The Burning Crusade* – it will take almost as long getting from 60-70 as it did getting to 60 in the first place. It will clearly be worth it though, apart from being able to kick more butt, the increase in levels means that there are 10 more talent points to further tweak your characters. New talent trees are already being previewed on the official site, and should shake up existing archetypes considerably.

Two new races join the fray courtesy of *The Burning Crusade* – the Horde call on the Blood Elves, while the Alliance gains the assistance of the Draenei. There's a new twist for the new races too, as Pearce explains: "We expect a number of players to go back and

try the Blood Elves and Draenei. I think what you'll see are a lot of people try the Blood Elf Paladins and Draenei Shaman. But we'll see." Previous to this expansion, Paladin's were an Alliance-only member, while would-be Shamans were limited to being Horde.

### ARE YOU EXPERIENCED?

Since most existing players will probably only have seen a fraction of what's available in *WoW*, you can't help wondering if we need new challenges. "Even though you've only experienced some small portion of the full content in the development and playing of one or two characters, some of that content isn't

It's all looking a bit *StarCraft*, if you ask us.





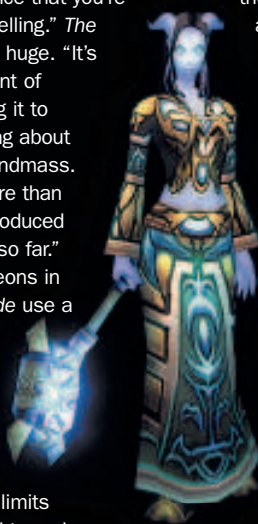


The improved honour system and new races will ensure that this one'll run and run.

tailored for a level 60 character. So you can go back and do it, but it's not necessarily going to provide you with a compelling experience. The expansion makes sure that the character isn't investing so much time in an experience that you're going to find compelling." *The Burning Crusade* is huge. "It's an immense amount of content. Comparing it to original we're talking about 30% increase in landmass. It's going to be more than what has been introduced by all the patches so far."

The new dungeons in *The Burning Crusade* use a wing system much like Dire Maul, but unlike the existing large RAID dungeons, they have a 25 player limit. These limits have been dropped to make

**"It would be easy to assume that Blizzard has a winner here, but it'll be difficult to pull off"**



the dungeons more accessible, as only a few have seen the 40-man instances. The existing RAID instances will be unchanged, although obviously as characters level up, they may not need so many people, something that Pearce is keen about, as he isn't in a guild, "The content of, say, Molten Core will be more accessible to those that aren't in a guild, because they won't need 40 players. I haven't been in Black Wing Lair yet, or Naxxramas, and that's content that I want to see. If it means that I have to wait until level 70 in order to

experience that content, then I am willing to do so."

## WAIT FOR IT...

The success of *World of Warcraft* has been something of a double-edged sword for Blizzard – the logistics of handling 6.5 million accounts hasn't passed without the odd hiccup. Things are bound to get busier after the expansion, too. "We anticipate that there are going to be more people, and we're actually currently in the process of upgrading the infrastructure. We're upgrading all of the servers now, and by the time we go live with *The Burning Crusade*, which will hopefully be this year, we will have upgraded the hardware in all the data centres.

"We will increase the player cap on the servers in conjunction with the increased land mass. And if there is an overpopulated server, we have the option to offer a character transfer to another realm, plus we'll be able to open new realms. We're also talking about the possibility of realm splits, as a last resort. So if we've got an exceptionally overpopulated realm we can split that into two realms. We still have a lot to talk about when it comes to realm splits, but I want the technology to be in place. "

It would be easy to think that Blizzard has a winner here, but *WoW* is such a finely tuned world that it's going to be a tough one to pull off. Given Blizzard's track record, though, it's likely to succeed. **PCF**

## BURNING DESIRE

To upgrade or not upgrade, that is the question...



**You're won't need** to buy *The Burning Crusade* in order to interact with those that have gone out and bought it, but

there probably will be enough reasons to do so. The most important of these is that you won't be able to rise above level 60 without going down *The Burning Crusade* path. The two new races will only be available to owners of the expansion as well.

Other fundamental changes to the game, such as the new honour system, will affect everyone the moment the game goes live, which looks most likely to be at the end of November, although an official date is yet to be confirmed. *Burning Crusade* won't see an end to additional content either. "We still want to do content updates, although whether or not we see 12 major updates between this expansion and the subsequent expansion I would have to say no – that's a pretty ambitious patch schedule.

"We are going to continue to do *WoW* content updates, and are goal well definitely be to ensure that those updates that are relevant to all subscribers whether they own burning crusade or not." Reassuring news, especially seeing as the likes of Naxxramas has been released as patches since the initial release. It looks like there will be plenty of sleepless nights for Horde and Alliance fans for some time yet...



Come to Nagrand, drink some wine, and slaughter the locals for your own ends...





# Bright Ideas

## The games industry, reimagined!

Because, as **James Carey** shows us, The People know what's best

**E**veryone knows that if they were in power, representing the humble Man On The Street, they would Put The World To Rights in a fortnight. One of life's oldest riddles is why those who do act, the executive class if you will,

are universally stupid, while those with the good ideas have only a pub for a forum, and are reduced to dashing their genius against the ears of the drunkenly disinterested.

While we couldn't quite master sobriety, we've had a crack at being

interested and given the next few pages over to you – the Great Unheard – to air your views. Thanks to the research carried out by the excellent UK e-zine *Play.d* ([www.playd.co.uk](http://www.playd.co.uk)), we can finally give the people a voice. No more will the

deranged doodlings in the margins of the masses go unpublished. If we all shout loud enough, perhaps the executive will hear us. It's worth a shot, anyway. So prick up your ears and listen, for we bring you the voice of The People.

**1** Give Jeff Minter £10 million to make whatever the hell he wants. We only insist it has llamas in it. That may however, be a given.



**2** TAKE THE FIFA LICENCE AWAY FROM EA!



**3** INVENT A WAND-LIKE MOTION SENSING CONTROL... OH, WAIT... ??  
— JUSATSUSHI (NOWLOADING)



**4** "BAN ALL IN-GAME ADVERTISING AND MICRO TRANSACTIONS... YOU'LL THANK ME IN FIVE YEARS"  
— RETROBOB (NOWLOADING)


**5** More monkeys in games. There can never be too many monkeys in games. Give them stetsons too and we'll really be over the moon.



**6** There need to be more "drunk modes" in games ??  
— PORKY (NOWLOADING)





**7** (SEVEN)  VIRTUAL REALITY THAT DOESN'T INDUCE MIGRAINE AND VOMITING. IT WAS ALWAYS A GREAT IDEA, IF ONLY SOMEONE COULD GET IT TO WORK....

**8** TATTOO "I MUST NOT OPEN MY MOUTH BEFORE THINKING" ON PETER MOLYNEUX'S HEAD. WE'RE SICK OF DISAPPOINTMENTS!



**10** Steel Battalion's stupendous and ridiculously overblown controller led the way, others have not followed.

We demand more pointlessly epic peripherals with which to fill our living rooms!

**12** We love orchestral soundtracks. From Final Fantasy to Fable and Halo, they only ever improve the atmosphere. So why are we forced to listen to dire 'urban' and 'nu-metal' tunes all the time?

**WHY?**

GAMES CAFÉS. WHY DON'T WE HAVE THEM? WITH THE DEMISE OF THE ARCADE, WE COULD REALLY DO WITH SOMEWHERE TO HANG OUT PLAYING GAMES WHILE DRINKING OVERPRICED STEAMED MILK. SHOPPING WITH THE WIFE WOULD NEVER BE DULL AGAIN....

**13**



**16.**

**9** NINE



Mature, positive and sensibly dressed female leads. More like this fair lady please.

**11**

"BRING BACK THE 'POINT N CLICK' ADVENTURE (I'M LOOKING AT YOU TIM SCHAFFER...)"

— EL PATRIOT (NOW LOADING)

**14**

A MATURE, SERIOUS AND INFORMATIVE VIDEOGAMES TV SHOW. PREFERABLY WITH PRESENTERS THAT KNOW WHAT THEY ARE TALKING ABOUT. AND NO DOMINIK DIAMOND.



**15**

Lock David Braben in a room until he agrees to make a new Elite.

"MAKE SURE UWE BOLL NEVER, NEVER GETS INTERESTED IN MAKING GAMES?"

— SMURPH (NOW LOADING)





17 Condemn any game with a 'gangsta' theme to death by fire. Unless it's made by Rockstar. Even then, we have our flame-throwers at the ready...



## EIGHTEEN

Hire some interested actors. Emotional connectivity is apparently the 'big thing' for this generation.

Well, try getting the voice acting right first. How about hiring some actors who care more about their performance than the paycheck?



Some actors?  
Are they interested?

19. MORE GAMES THAT FEATURE DRAGONS. YOU CAN

NEVER HAVE TOO MANY GIANT, FLYING, NAPALM-BREATHING BEASTIES.

20 A return to 2D art-styles would be wonderful. Just imagine how glorious games would look in full HD with sumptuous hand drawn visuals



21 PUT AN AGE RESTRICTION ON LIVE SO YOU DON'T PLAY WITH DAMN KIDS ALL THE TIME. — EL PATRIOT (NOW LOADING)

21

XVII (2)

23 MORE GAMES FROM ODDWORLD INHABITANTS. IT MAKES US VERY SAD TO THINK THAT 'STRANGER'S WRATH' MAY BE THE LAST WE SEE OF THEM.



Syndicate. Online. Just imagine storming your competitor's carefully crafted city, shotguns blazing and eliminating all his top scientists. Gaming bliss...  
"KA-CHAK! BOOM!"

25 COMEDY. IT CAN BE DONE WELL — SEE GRIM FANDANGO, SAM & MAX, PSYCHONAUTS — AND REALLY BRINGS LIFE TO A TITLE, YET IT'S SOMETHING THAT STILL ELUDES MOST DEVELOPERS.



24

MOTORBIKES!

NO MORE POST-APOLYPTIC SETTINGS! HOW MANY TIMES CAN THE WORLD END FOR GOODNESS SAKE?

26

They're perfect gaming fodder — superfast and super dangerous. So why are most motorbike games as dry as a cracker? We want the exhilaration of screaming around a corner on the ragged edge, an inch from disaster.







# Sid Meier

## and his great global train set

Picture © Corbis

**Quintin Smith** gets the lowdown on the sequel to *Railroad Tycoon* from the man himself

**F**ollowing on from the recent revisiting of Sid Meier's *Pirates!*, the upcoming *Sid Meier's Railroads!* is something many fans have been waiting more than 15 years for. *Railroad Tycoon* 2 and 3 might have had the licence, but they didn't have Mr Meier behind them, and the series had been steadily losing steam.

Shunning the off-putting, business-like side of things, *Railroads!* has more in common with miniature train sets than an industrial simulation. Laying track is rarely more complex than clicking between two points and, five minutes from starting to play, you're in charge of a thundering network.

Most importantly, even in its unfinished state, *Railroads!* is fun.

**PCF:** What made you decide to return to the helm?

**Sid Meier:** A couple of things came together at the same time. We met up with Take 2 Games, which has

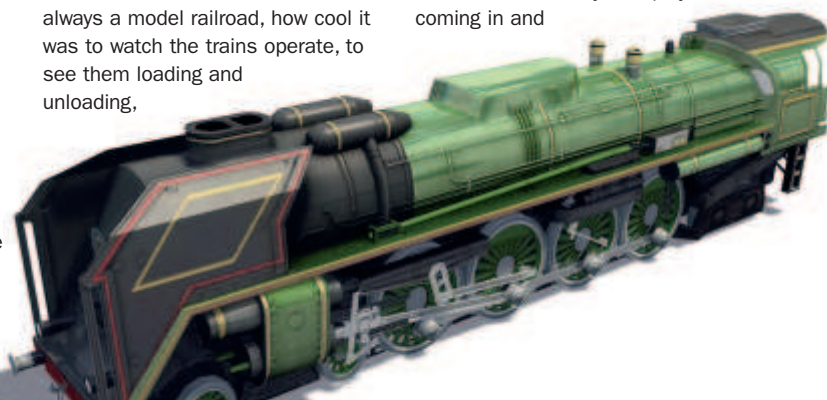
the rights to *Railroad Tycoon* in the first place, so it actually became a real possibility to work on a new *Railroad* game. It's the game that our fans have been asking for when we go to conventions and shows, and we had the opportunity to make that game happen.

It's always fun to revisit an old game, and in this case it was 20 years ago. With *Pirates!*, it was fun to use the new technology, and again with *Railroads!*, we could make the game we wished we could have made 20 years ago. One of the ideas behind *Railroads!* was always a model railroad, how cool it was to watch the trains operate, to see them loading and unloading,

with all the steam coming out and the whistling – we had no way of doing that 20 years ago.

**PCF:** A lot of tycoon games feel the need to become more complex, whereas this seems to have simplified things.

**SM:** We really want people to be able to enjoy the visuals by just watching and feeling that they've created something. When you create something, you want to admire and enjoy it, like people do with model railroads, for example. And there's so many new players coming in and







Within minutes, you'll be in charge of a massive network of rolling stock.

playing games these days that we wanted to make it accessible for lots of different people to play the game and enjoy it.

It still has some of the depth when you get into it. Decisions have to be made. You want to make as much money as you can and you have to decide between adding more trains, adding more track or upgrading. The idea is to get you going easily, then you have to explore all the options and possibilities on your own.

**PCF:** Is that why you have the cartoonish visual style?

**SM:** We wanted the world to feel happy and green and alive. I think that's the kind of that world we're inviting you into with *Railroads!* – a world where these cool trains are operating. The great thing about railroads is that they actually help people. They help cities to grow, they bring people food and take people on vacations. We want the world to reflect the fact that railroads are really making these people happier.

**PCF:** Did the idea for all of this come about when *Pirates!* did well?

**SM:** I think part of the encouragement came because people responded very well to *Pirates!*, and I think we realised that a lot of the ideas we worked on in the past were very strong ideas. They're just as interesting today as they were 15 or 20 years ago, and we could do so much more today with the technology. We could make the game we wished we could have

made then. It was a good combination and a good time to make *Railroads!*

**PCF:** And you could give the game a multiplayer focus?

**SM:** That's just another part of how games have got better and better. The graphics and sound are better, the interface is better, and multiplayer adds a whole new dimension to the gameplay. It's more competitive and exciting when you're playing against other players, so it's another thing we can add to the game that we weren't able to with the original.

**PCF:** Do you think fans are going to be upset that *Railroads!* caters to plenty of people besides them?

**SM:** I think we've captured what was great about the original game and still added a lot more to it. I consider myself a pretty hardcore gamer but I also enjoy games that are accessible – games where you don't need to read the manual or learn what the buttons are. I don't think accessibility or colour are negative elements.

**PCF:** So is this the game that you wanted to make 20 years ago?

**SM:** I think in terms of technology, this is the game we wanted to make.

It's not long before *Railroads!* is released, so the remaining cynics among you don't have to wait long for our review. The rest of us can look forward to a replacement for our multiplayer fix that isn't stereotypically violent. **PCF**



You'll need to decide whether to buy more trains or lay down more track.



Depending on your decisions, towns will grow and communities will flourish.

**"The great thing about railroads is that they help people. They help cities to grow, bring food and take people on vacations"**

## Robber Baron War

Prepare to battle for monopolies and stocks



A feather in the game's hat is its multiplayer mode. The fevered race to lay track, to move vital resources and build towns first, is made all the more exciting with friends replacing the AI. Up to four players only will be supported, but Sid explains this is due to the small map sizes, which force players to clash and consider each others' moves.





# TV to go

Mike Channell heads into a world of amateur chat show hosts and comedians and comes out with a fistful of vodcasts

**P**odcasts are old hat. Even PCFormat's mum knows what a podcast is, and at the exact moment of maternal comprehension, we have a duty to find something else to amuse us. Vodcasts are the logical progression, of course – rather than just *hearing* a whining American teenager we now get to see him *and* his toothpaste-encrusted Nirvana t-shirt to boot. Or at least that's what we thought.

In actual fact, after some digging around, we discovered that there are some genuinely entertaining amateur programmes

out there, and with *iTunes* and RSS becoming ever more prevalent, the podcasters have even more incentive not to peter out when they get the first pangs of boredom. Some vodcasts have even turned their hosts into minor internet celebrities, and boast impressive audience figures and surprisingly high production values.

We've done the digging for you and found our favourite video podcasts ranging from satire, through travel to cookery. Whatever your tastes, you should find at least one series worth sticking on your Video iPod for posterity.



## COMEDY

Come, amateurs: make us

### GALACTICAST

[www.galacticast.com](http://www.galacticast.com)

Sci-fi and comic book spoof from a reasonably technically proficient amateur team. Whether it's Superman and Lois having a 'domestic' or Dr Who hosting a Springer-esque chat show, there's some chuckleworthy material here.

### ASK A NINJA

[www.askaninja.com](http://www.askaninja.com)

One of the few video podcasts that had us laughing out loud, *Ask A Ninja* is an off the wall series where the unique host answers emails in a style that generally involves an awful lot of angry shouting and chop-socky arm-waving antics.

### SOUP OF THE DAY

[soupmovie.zabberbox.com](http://soupmovie.zabberbox.com)

A slightly risqué attempt at *Curb Your Enthusiasm*-style comedy, *Soup of the Day* follows a poor chap who accidentally told three women he loved them all on the same evening. Now he has three girlfriends to keep both happy and unaware of each other's existences.

### DETECTIVE FASHION

[www.spainfulfilms.co.uk](http://www.spainfulfilms.co.uk)

Dark, surrealist and, most importantly, British comedy. Buck-toothed Detective Fashion attempts to make sense of it all in the midst of cloning, disappearing oxen and the frankly terrifying rantings of The Blue Baby. Inspired.

### GOODNIGHT BURBANK

[www.goodnightburbank.com](http://www.goodnightburbank.com)

A spoof American local news programme which shows none of the reports and all of the in studio backbiting. The cast is proficient, the production values are impressive and the writing is solid and consistently amusing.

### ITOD

[www.itod.tv](http://www.itod.tv)

We're not sure what to make of this. The site's author claims he found Tod's wibblings on a cassette inside a camcorder he bought at a pawn shop. We think it's slightly more knowing than that, particularly because Tod comes across as fairly insufferable.

### WEST WINGERS

[www.shoutboy.com](http://www.shoutboy.com)

It's been a while since an update but this political satire is notable for a particularly impressive impression of George W Bush, and an even better one of Condoleezza Rice. Fingers crossed for more episodes soon.

### CEREALIZED

[www.cerealized.com](http://www.cerealized.com)

Hit and miss, but worthy of a snigger or too, Cerealized follows the Monday morning routine of three roommates. A bit quiet of late but a second season is promised.

### RICKY GERVAIS

[www.rickygervais.com](http://www.rickygervais.com)

Assuming you can bear the ubiquitous face of Gervais staring out of your PC screen, you might find this most rare of things, a celebrity videocast, mildly amusing. Worth a go if you're not yet weary of the David Brent smarm.

## NEWS/SPORT

Keeping up to date with the outside world

### ★ THE BEST ★ BBC News podcasts

[www.bbc.co.uk/news/podcasts](http://www.bbc.co.uk/news/podcasts)



■ The Beeb embraces popular culture with a vodcasting trial. The best bits of *News at Ten*, updated every Wednesday, and *Newsnight*, updated every Friday, mean that Natasha Kaplinsky and Paxo can be beamed to your Pod in between those Spice Girls tracks.

### ABC WORLD NEWS

[abcnews.go.com](http://abcnews.go.com)

A US-centric news vodcast for those of you intent on finding out what's worrying the Americans at any given time. Professionally produced and updated daily, this how a news podcast should be delivered.

### CNN

[www.cnn.com/services/podcasting](http://www.cnn.com/services/podcasting)

US News network CNN also produces its own daily video podcast, the 'commuter edition' which updates subscribers to the current global situation. It's also worth mentioning that the company has an hourly audio podcast too, for those ravenous for news.

### THE OINTMENT

[www.theointment.com](http://www.theointment.com)

An ex-Disney writer takes a wry look at the day's events. As with so many of these podcasts it's US-centric, but host Steve Tatham is reasonably engaging and even cracks the odd joke on occasion.

### NBA.COM

[www.nba.com](http://www.nba.com)

One of the few sporting organisations to release its own video podcast, NBA's sterling effort includes match highlights, interviews and features and is updated regularly.

## TECH

The latest web-based geekery, direct to your 'Pod

### ROCKETBOOM

[www.rocketboom.com](http://www.rocketboom.com)

One of the most famous vodcasts around, *Rocketboom* has been going since the beginning and continues despite the loss of attractive-yet-smug hostess Amanda Congden. The new presenter is an English ex-MTV Europe VJ and seems to have a little way to go before she's on a par.

### GEEKBRIEF.TV

[www.geekbrief.tv](http://www.geekbrief.tv)

A gadget news show hosted breathlessly by a lady called Cali Lewis. Reasonably shallow in terms of content, but should keep you up to date with the latest technological widgets as they arrive on the market.

### DLTV

[digitallifetv.com](http://digitallifetv.com)

Terrifyingly professional 40-minute show that details all manner of techie wonderment. There's clearly a decent budget behind it, and it shows, putting many of the other vodcasts on this page in the shade. The hosts are also both knowledgeable and amiable.

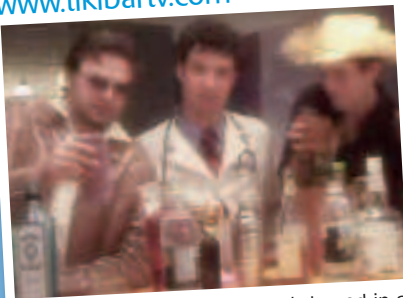
### CRANKY GEEKS

[www.crankygeeks.com](http://www.crankygeeks.com)

In which a grumpy US tech journo moans a lot. It's an old format but provides some interesting tech chat, and the assembled cast appears to know their subjects well.

### ★ THE BEST ★

**Tiki Bar TV**  
[www.tikibartv.com](http://www.tikibartv.com)



■ Fantastically offhand comedy based in a Hawaiian-style bar. In each episode, Dr Tiki prescribes a cocktail which solves whatever problem is troubling the patrons of the bar. Johnny Johnny mixes it up and disaster is averted. Best of all, it includes details of how to make every drink.

"Some vodcasts are popular enough to turn their hosts into celebrities, and boast big audiences"

### ★ THE BEST ★

**Diggnation**  
[www.diggnation.com](http://www.diggnation.com)



■ A look through the links that top the social networking site [www.digg.com](http://www.digg.com). The two hosts, while brash, are fairly witty and commanded a huge audience at their San Diego Comicon special – evidence of a big web following.



# Essential vodcasts

## ANIMATION

Where to get your regular fix of cartoon fun

### NIGEL AND TREVOR

[www.nigelandtrevor.com](http://www.nigelandtrevor.com)

The story of two public school boys attempting to make their fortune. Nigel is scheming, Trevor is just dim, and both have extremely shaky English accents. The comedy is hit and miss but the animation is suitably neat.

### BRICKFILMS

[podcast.brickfilms.com](http://podcast.brickfilms.com)

This is a podcast containing submissions to the Brickfilms website. All stories are animated with LEGO, and some are astounding in their scale and ambition. We particularly enjoyed the sci-fi action of episode 15.

### PODSTAR.RUNNER

[podstar.homestarrunner.com](http://podstar.homestarrunner.com)

Where would internet animation be without *Homestarrunner*? Thankfully you can now get your fix of Strongbad emails as a podcast and they're just as hilarious as they always were. Unfortunately it's only repeats at the moment, but hopefully we'll see new episodes there soon.

### CHANNEL FREDERATOR

[www.channelfredator.com](http://www.channelfredator.com)

Animation shorts collected from all sorts of places including elsewhere on the internet, public submissions and even professional animation houses. The quality of the work itself is the emphasis rather than any kind of plot, but there is plenty to like.

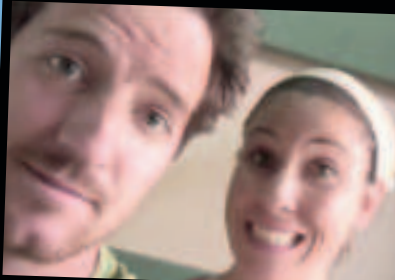
## DIARIES

Other peoples' lives, delivered for free

### ★ THE BEST ★

#### The Travelling Morans

[www.sarahlane.com](http://www.sarahlane.com)



■ Newlyweds Sarah and Brendan have embarked on a year long trip around the world. The pair are witty and enjoyable company for your own iPod-augmented wanderings, and the views from the various international locations they visit are often breathtaking.

### GERIATRIC1927

[www.youtube.com](http://www.youtube.com)

Currently something of a net celebrity, the man behind the soubriquet is that rarest of beasts: a pensioner with a videoblog. The 79 year-old has won fans for his war stories and receives responses from around the world.

### DRIVETIME

[drivetime.ravijain.org](http://drivetime.ravijain.org)

An interesting twist on vodcasting, with *DriveTime* taking place during diarists Ravi and Sonia's morning commute. Quite what the consequences are for Ravi's driving standards is unknown, but it's reasonably engaging chatter.

### MY LIFE IN ADVERTISING

[www.apple.com/itunes](http://www.apple.com/itunes)

Only accessible through the iTunes podcast directory, Sean McKenna guides you through the kerazy (with a lower case k and probably an upper case z) world of advertising. It's mildly amusing at times, but more of a cringe-fest than a comedy.

### DIARY OF A MAD FILMMAKER

[www.exgfilms.com](http://www.exgfilms.com)

A bunch of American kids making indie films also find the time to do a videoblog detailing their productions. Endearing in a way, tremendously geeky in another, if you've ever fancied being a filmmaker you'll empathise.

## GAMES

What to watch while *Oblivion's* loading

### X-PLAY

[www.g4tv.com/podcasts/index.html](http://www.g4tv.com/podcasts/index.html)

American cable channel G4 was founded on videogames programming, as a result it knows how to put together a gaming podcast. The presenters can grate somewhat, but the information is there in spades.

### THE 1UP SHOW

[the1upshow.1up.com](http://the1upshow.1up.com)

The staff of the 1up games website star in their own little skits and review games with a lean towards the console stuff. PC still gets a look in, but if it's a general idea of the ebb and flow of games in general that you want, you could do worse than subscribe to this.

### COIN-OP TV

[www.retroblast.com](http://www.retroblast.com)

A podcast dedicated entirely to the old-school thrills of arcade cabinet play, searching out classic units and new ways to play old favourites. If you're tired of graphics overtaking gameplay, this could be for you.

### MTV.COM VIDEOGAME PODCAST

[podcasts.mtv.com](http://podcasts.mtv.com)

Even the world's biggest music channel is weighing into the gaming podcast market, although many of the casts are 'six shots'; a bundle of game trailers. When it isn't, though, cult net hero Old Grandma Hardcore grills game developers in her own inimitable style.

## MISCELLANEOUS

Odds and sods you shouldn't dismiss

### CTRL + ALT + CHICKEN

[www.ctrlaltchicken.com](http://www.ctrlaltchicken.com)

Hosted by Alex Albrecht from *Diggnation* and Heather Stewart, *Ctrl+Alt+Chicken* is most probably the

world's first and only online cookery programme. Thankfully the pair are by no means natural heirs to Delia's crown, so culinary catastrophes are not out of the question.

### ★ THE BEST ★

#### The Rest of Everest

[www.restofeverest.com](http://www.restofeverest.com)



■ A podcast constructed from footage filmed during an expedition to Mount Everest. Members of the team comment on these hefty vodcasts, and with over 80 hours of footage from the trip, they shouldn't run out any time soon.

### BMW VODCAST

[vodcast.bmw.com](http://vodcast.bmw.com)

One of the few big companies to vodcast, BMW keeps subscribers updated with its latest news on and off the racetrack. Virtual circuit tours with F1 drivers are particular highlights, but if you're a fan of cars, it's all worth a gander.

### SURF SESSION REPORT

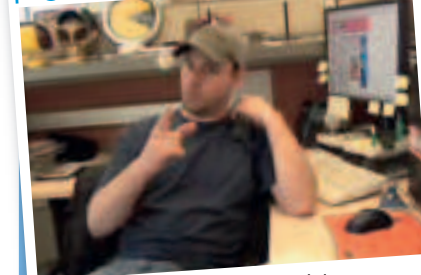
[www.surfsessionreport.com](http://www.surfsessionreport.com)

If you ever tire of the grey, damp dullness of this sceptred isle, perk yourself up with a vodcast direct from Hawaii. PCF's resident surfin' Games Ed may enjoy the sport, but the rest of us would settle for the blue skies and unspoilt sandy beaches.

### ★ THE BEST ★

#### PCGamer Podcast

[pccgamerpodcast.com/video](http://pccgamerpodcast.com/video)

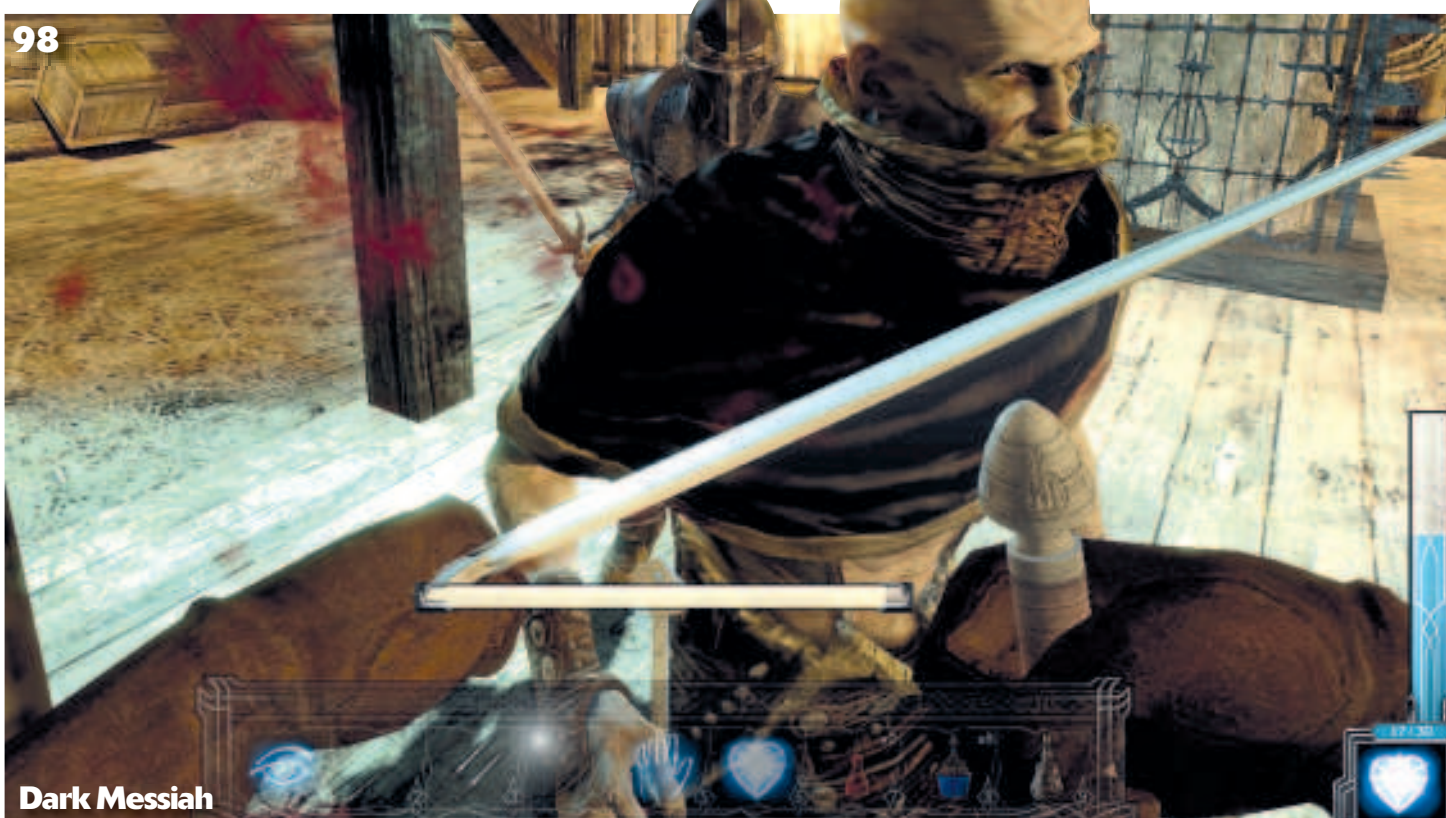


■ The US equivalent of our sister magazine *PCGamer* has a vodcast. Interviews and gaming news from around the world in handy bite sized chunks. Knowing the UK Gamer team, we do find the Editor's desk suspiciously tidy, though.



# reviews

All the latest games, gear and apps



Dark Messiah

## Our scoring system

**0-19%** Unusable or astoundingly rubbish  
**20-49%** Largely not worth spending money on  
**50-69%** Some decent features but uninspiring  
**70-79%** Accomplished without the must-have factor  
**80-89%** Outstanding. Awarded Top Gear or High Score  
**90+** Exceptional. A PCFormat Gold Award winner

## Our key promises

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We've been reviewing kit and games for 14 years. With over 8,500 reviews written, we have the most talented, dedicated and authoritative teams in the business.

### 2. Integrity is paramount

We never trade pages for exclusives, or review games not signed off as finished by the publisher. Where we've looked at reference hardware, we'll make that clear in the review.

### 3. The PCFormat Gold Award

Only when a piece of equipment or game exceeds our expectations in terms of innovation, excellence and value for money does it get one of these coveted honours.

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It's a misconception that only 90%+ is an essential purchase. Anything scoring 80% or higher is festooned with one of these, making it one of the month's most highly recommended.

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Ultralight laptops



## PCFormat Experts



**KIERON GILLEN**  
The games reviewing equivalent of Deep Thought got all whimsical over the original TOCA this issue. Vroom!

**MOST WANTED**  
Lower laptimes



**JOHN WALKER**  
Walker's insistence that *Sam & Max's* return was the greatest comeback since Lazarus on p88 fell on deaf ears.

**MOST WANTED**  
Things to click on



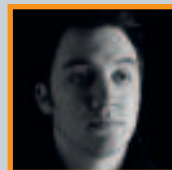
**ALEC MEER**  
Freed from the shackles of PCF, Alec ventured off into the wilds of freelance journalism. And wrote us a workshop (p139).

**MOST WANTED**  
*Splinter Cell 4*



**MIKE CHANNELL**  
Humiliation and toil go hand in hand in these parts, as Mike's credibility shredding Tested to Distraction feature (p46) proves.

**MOST WANTED**  
Clean overalls



**JIM ROSSIGNOL**  
*Dark Messiah* really is as good as it looks, according to our Jim's appraisal of the swords'n'sorcery epic, over on p98.

**MOST WANTED**  
A m  le



**DAVE JAMES**  
DJ's PES obsession rose to new heights this issue, as version six of the soccer game that hates you having fun arrived.

**MOST WANTED**  
Goalless draws

**SUBSCRIBE NOW!**  
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83



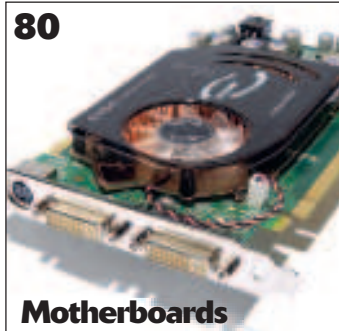
Zen Vision W

110



Battlefield 2142

80



Motherboards

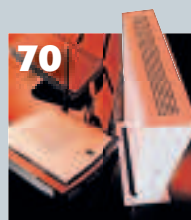
78



Media Centre cases

## THIS MONTH

70



### » DRAFT-N ROUTERS

#### Stream the web – quicker!

The manner in which the quiet majesty of the internet is broadcast through your humble abode may not matter one jot to most people – but it does to us, and it should to you, too. If your home or office wireless broadband is laggy, inconsistent and generally irritating, join the queue – but also check out our roundup of the next-gen routers that might just solve your problems.

106

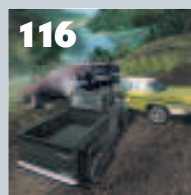


### » SPORTS SPECIAL

#### PES, FM2007 reviewed

Imagine our joy/horror at the realisation that approximately 436 sports games were all due to arrive in time for inclusion in this already fairly bumper issue. How on earth to accommodate so many diverse sporting genres? After much head-scratching, it was decided that we should 'round up' all of these similar yet different titles into one 'special' feature, all about 'sports' games. Still stuck for a title, mind...

116



### » JUST CAUSE

#### The way of the gun

Any game that features mullets, Mexicans, machetes and a thundering Eighties soundtrack that would get Jan Hammer's lawyers on the phone *has* to be a good thing. Add in a vast, freeform gameworld, powderkeg political instability and the ability to steal heavily armed police helicopters in mid-air using nothing but a length of twine, and you've got the stuff that dreams are made of. Vamos!

## PLUS

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## FOR MORE REVIEWS...

Check out the PCFblog, where we bring you the best-informed opinions of new releases even sooner these young internet upstarts we keep hearing about. Head over to [blog.pcformat.co.uk](http://blog.pcformat.co.uk) for regular updates. On the blog this month, you'll find:

» ZUNE » South Park vs. Warcraft » Alan Wake » Kentsfield



## ROUND-UP

# THE NPIPE STRIKES BACK

Wireless-G's day is done... or is it?  
**Neil Mohr** investigates and rates  
the latest draft-N routers

## HOW WE TESTED

We often throw lumps of congealed data down wireless pipes, and it frequently gets stuck, but phat draft-N pipes are designed to all but eliminate this problem. For testing, we concocted three scenarios based on range and throughput speeds, so we had three tests in store for each router and receiver set. The first was designed to check throughput at minimal range, so we checked the average and peak speeds achieved. The midrange test was more challenging, placing a floor and a single solid wall between the base station and the PC card. The final test was out-and-out range: we gave the routers an unobstructed path to their receivers, and checked connection speeds over a distance of 120m.

**A**ll hail the new Nperor! The first Wireless-N routers are here, and they're better, faster and longer-ranged than ever, apparently. 802.11n is slated as the successor to the 802.11g standard, and while we've all come to love G, it has all-too-obvious speed and distance limitations.

Now, 802.11n can be broken into three basic techniques: MIMO (multi-in, multi-out), packet bursting and channel bonding. MIMO, at its most basic, can double data-speeds, and enables interference monitoring and provides ways to circumvent it. Packet bursting is the optimising of how packets of data are sent. Finally, channel bonding makes use of additional wireless channels to increase throughput – at the

expense of interference to other users. Alongside this is a new Quality Of Service provision that reserves bandwidth so that high-def movies won't stutter.

During testing, we found interoperability between different chipset manufacturers was poor, managing G speeds at best. But then, N as a standard won't be ratified until 2008. Forget about the calm and orderly Pre-G rollout, N is looking like a marketing free-for-all.

That's not to say the wireless kit here isn't fast or worth investing in; just don't expect it to work with any other manufacture's kit correctly, or at full speed, or indeed with any future revisions of N kit – something all the small print was more than willing to tell us. Reassuring huh?





## Netgear RangeMax ADSL2+ Modem Router DG834N

### Netgear RangeMax Notebook Adaptor WN511B

**£100**

**£71**

Manufacturer Netgear Web [www.netgear.com](http://www.netgear.com)

The Netgear is the only router here to sport a full ADSL2+ modem, which gives it a clear headstart on the others. It's also the only router not to use external aerials, and while this didn't diminish performance, we felt a minor loss at not being able to tweak the pointy little things around.

In terms of speed, the Netgear initially disappoints, but a bit of tweaking fixed the sub-G speed. Once up and running, performance certainly was among the best in all but the extreme distance test. It was good to see

reasonable compatibility with the others, too. The poor distance performance is a let-down, as otherwise the Netgear would be an excellent choice.

**Standard** 802.11n Draft 1

**Broadband** ADSL2+ modem

**Security** WPA2, NAT, DoS prevention, Intrusion Detection, MAC filtering

**Access control** Time-based usage, Logging, URL filter

**75%** PCF says... "The only ADSL unit here is let down by its long-range abilities."



**top  
gear  
PCFormat**

## Buffalo Nfiniti Draft Broadband Router WZR-G300N

### Buffalo Nfiniti Draft Notebook Adaptor WLI-CB-G300N

**£81**

**£64**

Manufacturer Buffalo Web [www.buffalotech.com](http://www.buffalotech.com)

Buffalo certainly seems to pride itself on being one of the first networking companies to hit the market with new technologies, thanks to a close relationship with Broadcom.

On a performance front, the Buffalo kit was reassuringly solid in all conditions. It certainly kept its head up during the short-range test, falling short of the fastest speeds but providing a consistent rate of data transfer. The medium-distance test did show it lagging behind the rest of the units on test here, but not by much, while at extreme range it kept a solid, consistent connection.

Troublingly though, this admirably stable transfer speed was still less than

other MIMO-G systems that we've seen. Despite this, the easy-to-use and feature-rich interface does help the Buffalo pick up a few much-needed points, and the router is particularly low in price, as are the network cards.

**Standard** 802.11n Draft 1

**Broadband** Cable/DSL WLAN

**Security** WPA, Dynamic Packet Filtering, Intrusion Detector, NAT, Stateful Packet Inspection, MAC filter

**Access control** QoS, Scheduled/Policy filter, Website filter, IP filter,

**80%** PCF says... "Reliable, easy to use kit with admirable stability."

## D-Link RangeBooster N 650 Router DIR-635

### D-Link RangeBooster N 650 Notebook Adaptor DWA-645

**£90**

**£57**

Manufacturer D-Link Web [www.dlink.com](http://www.dlink.com)

As far as D-Link kit goes, this is exciting. We can recall a time when you could purchase D-Link networking gear in any colour as long as it was grey, but apparently someone has mentioned that people might want these things in their living rooms.

The N650 was a demon over short distances, but let itself down over medium and long range, where 802.11n is supposed to rock. It would barely transfer at all in the extreme distance test. The interoperability seems reasonable from the client end, with

decent G speeds attainable, though. We like the router interface, too, which is one of the fastest to use on test, with most changes being implemented instantly.

**Standard** 802.11n Draft 1

**Broadband** Cable/DSL WLAN

**Security** WPA2, NAT, Stateful Packet Inspection, MAC filtering

**Access control** QoS, Scheduled/Policy filter, Website filter, IP filter, Logging

**70%** PCF says... "High speed can't make up for the poor long range results."

**Turn over for the winner...**





"This Linksys WRT300N router is technically accomplished, and sports many useful, high-end features"

top  
gear  
PCFormat

WINNER!

## Linksys Broadband Router WRT300N Linksys Notebook Adaptor WPC300N

Manufacturer Linksys Web [www.linksys.com](http://www.linksys.com)

£85

£66

Bless our poor, bleeding eyes: Linksys has finally ditched the searing blue traditionally splashed over its wireless kit for a far more suitable silver and black. Call us picky, but if you have to constantly look at this stuff, you should expect a more reasonable colour scheme to be used.

This Linksys router is technically accomplished, sporting many high-end features. However, it's slow to use, requiring an age to restart even after a slight change in settings. Far more in its favour is the respectable speed it shows at all ranges, particularly at extreme distances, at which it achieves the highest

throughput on test. Pricing is also very close to that of the Buffalo, making it tempting, though we still wish adaptor prices were significantly lower, but that goes for all manufacturers.

**Standard** 802.11n Draft 1

**Broadband** Cable/DSL WLAN

**Security** WPA2, NAT, Stateful Packet Inspection, MAC filter

**Access control** QoS WMM, Web content filter, Access policies, Logging

**82%** PCF says... "The best all round speed is marred by the slow router interface speed."

## It's N and N and N again...

Have we been drinking too much, or are we're actually seeing triple Ns?

Until now, we've had what some people called Pre-N, which didn't really mean anything but a new line of products for each manufacturer to sell. Now we're moving into the first 'official' Draft-N period, which you could almost think of as glorified MIMO-G. Things will get more interesting towards the middle of 2007

when Draft-N version 2 is released. There's no guarantee your version 1 kit will work with the version 2, but you have to live in hope, though the small print on the packaging leaves us with little.

Version 2 should also introduce dual 2.4GHz and 5GHz signalling devices. At 5GHz there's a fraction of the noise

compared to that of 2.4GHz, which has microwave ovens, Bluetooth, DECT phones, military 'airborne devices', RFID tags and a host of other devices to contend with.

Running at 5GHz also has the advantage of being twice as fast, though the signal tends to be blocked far more

easily by solid objects, so it'll be interesting to see how well MIMO can help it overcome this limitation. It's something that could be offered today, but the companies and IEEE decided it'd be best to wait a year. Finally, 2008 will see devices that should be compatible with Draft N version 2.





## MINIATURE MARVEL?

# Hi-Grade mDMS P60 Mini-PC

Slim, sleek and dressed in black: we hope this is a new breed of Media Center

**Price** £800 **Manufacturer** Hi-Grade **Web** [www.higrade.com](http://www.higrade.com)

**F**or a change, we'll start this review give you a brief glimpse into what goes on behind the scenes at PCFormat. When we review something, we apportion an amount of time to do it. A reasonable amount. Unfortunately, much of the time that should have been spent enjoying this glorious slim media centre box was wasted wrestling with an obscure driver set and fiddling with what appears to be a faulty DVI port.

Fortunately, all of this struggling it was worth the effort, as this is actually a fairly potent little device, based on the ECS P60 barebones system. Somehow, possibly as a result of some sort of voodoo ceremony, a 1.83GHz Core Duo chip, 1GB of RAM and a TV tuner have been stuffed into this implausibly tiny case. What's more, it manages to hurry all this hardware along without sounding like an asthmatic – in fact, the mDMS is

barely audible at all, though it does run rather hot when placed under strain.

### BLACK BOX RECORDER

The fact that the mDMS has such performance clout almost makes its foibles more difficult to forgive. If the P60 does so much stuff right, why are some things left to chance? The unit we had was particularly contrary when it came to graphics output, with the DVI port well and truly refusing to talk to two different monitors. In the end we had to resort to a DVI to VGA converter cable, and were rewarded with a blurry image that made us feel like our eyes were failing. Some would argue that you'd usually only use s-video for a media centre, but with HDTV well and truly on the march (and a chip that can handle it included in this slimline box of delights), you'd expect your media box to pump out the required pixels. Hopefully we

**"1GB of RAM and a TV tuner have been stuffed into the implausibly tiny case"**

were just cursed with a faulty unit, then.

Despite our tainted experience, we must say we are, for the most part, impressed by the P60. Assuming it works properly, it's a pokey but powerful Viiv enabled

Media Center PC, and despite a slightly Eighties exterior, it's subtle enough to be hidden away in the corner by your telly. Our main reservation is that £800 is steep for a monitorless PC, and it only packs 80GB of storage. **Mike Channell**

**CPU** Core Duo 1.83GHz

**RAM** 512MB DDR2

**Chassis** ECS P60

**Graphics** Intel 945GM

**Storage** 80GB

**Optical** DVD-RW

**Extras** Media Center remote, IR keyboard, WiFi, TV Tuner

**79%** **PCF says...** "Gadget fetishists will love it, but may be too pricey for the rest."

### BENCH MARKS



#### WMV9 ENCODE

#### PCMARK

**P60 MINI-PC**

**1:55**

**3040**

More benchmarks and details can be found on your DVD



eVGA is gaining something of a reputation for indiscriminate but effective overclocking.



## MIDRANGE MARVEL

# eVGA e-GeForce 7900GS

Cheap and cheerful or bargain bin? Midrange is usually a gamble, but here's a card you can have confidence in

Price £150 Manufacturer EVGA Web [www.evga.com](http://www.evga.com)

**W**e'll admit, we do tend to get more excited about the visual splendour and silky smooth framerates of high-end graphics cards – there's often a hushed silence when a new powerhouse arrives in the office, and everyone gathers to bask in the LCD glow of the polygonal fireworks. Every so often, though, a midrange card drops out of the PCF postbag and blows our underwear clean off.

The eVGA 7900GS is just such a card. We weren't expecting to be impressed by it, but with the GPU and RAM overclocked out of the box, to 500MHz and 1,380MHz respectively, there was a chance that this could be one of those affordable 'holy grail' cards that appear occasionally.

It's also pleasing to note that this card doesn't just hold its own – it runs

around waving its credentials around for everyone to see. The eVGA effort seemed reasonably comfortable at

**"This graphics card represents extremely good value for money"**



1,600x1,200 in most of the apps we tested, but it was at 1,280x1,024 where this card really impressed. Pitched against the similarly specced X1900GT (reviewed in PCF191) at

that res, we saw the 7900GS come out on top in every benchmark save *Oblivion*.

In *3DMark06*, for example, the GS netted 4756 marks at 1,280x1,024 with HDR on, putting the GT in the shade to the tune of 265 clicks. In *F.E.A.R.* it was a similar, if less pronounced, story with an extra couple of frames per second gained at the same resolution. Of course, with its striking similarity to the

X1900GT, NVIDIA's other budget offering the 7900GT is also pipped by the plucky little GS.

## BUDGET BEASTIE

The crux of the debate is whether or not you have anything larger than a 19-inch monitor. If you're running a system that has a 1,280x1,024 or below, and as far as we know the majority of people do, this represents extremely good value for money. The performance is spiffy for a midrange GPU and the extra poke from the overclocking has really made this worth your attention.

**Mike Channell**

**GPU** G73

**Memory** 256MB GDDR3

**Core speed** 500MHz

**RAM speed** 1,380MHz

**Pixel pipelines** 20

**API support** DX9, OpenGL2.0

**Shader support** HDR, SM2, SM3

**AV-Out** 2x DVI, S-Video

**HDCP support** Yes

**90%** PCF says... "The middle ground has a new champion, in form of this budget wonder."

BENCH MARKS	3DMARK06 1,280x1,024	3DMARK06 1,600x1,200	F.E.A.R. 1,280x1,024 2xAA 4xAF	F.E.A.R. 1,600x1,200 4xAA 8xAF	OBLIVION 1,280x1,024 Half Detail	OBLIVION 1,600x1,024 Max Detail
7900GS	4,756	3,691	66	42	27	17
7950GT	5,515	4,680	80	42	32	22
X1900XT	5,601	4,992	85	47	30	17
X1900GT	4,491	3,872	64	45	31	23





## PRICE PREMIUM

# XFX 7950GT

Another card, another naming convention, but does it compare to NVIDIA's best?

Price £242 Manufacturer XFX Web www.xfx.com

**We were never fooled.** In fact we rarely are when it comes to matters of product names. Some even say that PCF technical editor Al Bickham views the world in terms of benchmarks, and that the only time he uses graphics card boxes is to decorate his lair. You see despite the numerical similarity between this and the 7950GX2, this is actually a much meeker prospect. Curse the bare-faced cheek of graphics card naming conventions, eh?

Still, we thought we'd give this a fair run at the PCF benchmarking gauntlet. Firing up benchmarking stalwart 3DMark06 demonstrated fairly quickly that, while we weren't in the presence of greatness, XFX's remix of the 7900 can just about handle itself in a polygon chucking tussle. A score of 5,515 marks means it drops into the X1900XT's wake, with ATI's offering picking up 5,601 marks.

The main problem with this situation is that, currently, the X1900XT is cheaper than this card. While some would argue that the difference in both scores and price is marginal, it's hard to recommend 'less is more' as an intelligent buying ethic. There are certain benefits to having a

## COST DEFECTIVE

completely silent card, though, after all this would add some real *cojones* to a media centre, if you can find a case it will fit into. We're quite prepared to believe that some serious design-based witchcraft went into making this thing run at an acceptable temperature with nothing but a decorative metal head dress.

The fact of the matter is, we know that, despite the cheeky extra 50 in the name, this isn't the horsepower shunt the G73 core truly deserves. After all, in PCF192 we played with eVGA's spicy £272 Signature 7900GT, which was overclocked up to its armpits and capable of garnering 5,865 notches in 3DMark. Given £300 cold hard cash, though, we'd grab an X1900XT and spend the change on clothes, food and romancing a lady. **Mike Channell**

**Core G73**  
**Memory 512MB**  
**Core speed 550MHz**  
**RAM speed 1,400MHz**  
**Pixel pipelines 24**  
**API support DX9, OpenGL2.0**  
**Shader support HDR, SM2, SM3**  
**AV-out Dual link DVI x 2, S-Video**

**74%**

PCF says... "Expect a puzzled look from your accountant if you buy."

## CARD TRICK

# Sapphire X1650 Pro

Silent, but not quite as deadly as we know it could be

Price £77 Manufacturer Sapphire Web www.sapphire.com

**S**hould you have to really scrimp on the cash, the X1650 Pro *might* be a better bet than the cards it shares these pages with. After all, with the price drops across the board for components, some people still aren't prepared to break the £100 barrier when buying a GPU. If you ask us, though, that philosophy is sheer madness.

It's important that you don't get too excited if you're going to spend less than your weekly supermarket budget on the most crucial part of your rig. It's like jumping out of a plane with extremely expensive rigging, but only using a string vest as the parachute. The 3DMark06 score for the X1650 is only 2,591 at 1,280x1,024, and things don't get much better in F.E.A.R., with a mere 23 fps at the same res.

We're not really surprised that this is about as exciting as a wet Monday in Coventry – the X1600 hardly set our trousers on fire when it was originally released, and the extra 50 (which appears to be becoming something of a trend) and utterly meaningless Pro designation has added little to tempt us. If you're building an absolutely rock-bottom budget rig

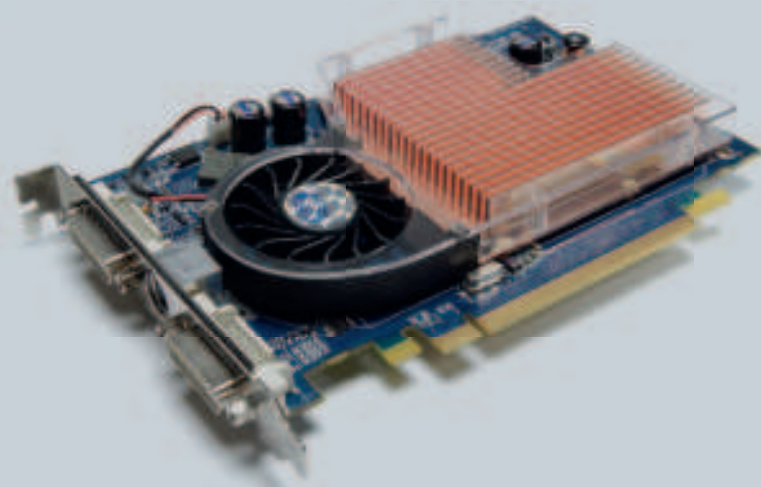
or super cheap media centre, and your onboard graphics wouldn't be capable of rendering a six year old game without puffing and panting, then perhaps this might fall beneath your cross-hairs. Otherwise, our advice is to avoid it like botulism.

## SHORT CHANGED

Some graphics cards become infamous for being complete and utter garbage. The GeForce 4 MX440 springs instantly to mind as one of the first horribly underperforming add-in cards, boasting less grunt than a dead pig. The X1650 Pro is too dull for notoriety, or even for dubious awareness – it'll probably just quietly disappear. **Mike Channell**

**Core R580**  
**Memory 256MB GDDR3**  
**Core speed 450MHz**  
**RAM speed 1,300MHz**  
**Pixel pipelines 12**  
**API support DX9, OpenGL2.0**  
**Shader support HDR, SM2, SM3**  
**AV out 2 x DVI, S-Video**

**56%** PCF says... "A dull offering that has no place in a high-end rig."



More benchmarks and details can be found on your coverdisc





BETA MAX

## Gigabyte CE EPC H663

At last, you can record *Doctor Who*, and feel like you've gone back to 1981. Brilliant!

Manufacturer Gigabyte Price £345 Web [www.gigabyte.com.tw](http://www.gigabyte.com.tw)



**H**ats off to Gigabyte. Within the aluminium walls of this media centre chassis, there's nearly everything you need to get cracking with a Viiv-compliant system: a mobo with Pentium D support, graphics card and optical drive. Which means you only have to acquire a CPU, memory and hard drive.

Fedoras back on, however, for the looks. While this is a flexible and potentially powerful media hub, it looks like an 80s VCR. The DVD drive, at least, isn't a toploader, but it's still not retro in a good way. Moreover, the front is downright untidy – the USB and media card ports are open to the elements, giving the front panel an unfinished feel.

### IDEAL INSIDE

Pry off the lid, however, and a world of technical beauty awaits you. The internal layout of the system is close to divine, with everything in easy reach of questing digits. The cooling system is well thought out, comprising a copper heatsink and fan, connected via heatpipes to a secondary cooler, which takes the lion's share of the CPU's heat and chuffs it out the top of the case.

For this reason alone, you'd want it at the top of your stack of separates, even if the looks will motivate you to hide it away. The decision to go with Pentium D as the CPU type means affordable dual-core chips and RAM, so this system is a potentially inexpensive way to the media centre life.

It also comes with a Windows MCE IR remote and a small keyboard with an onboard rollerball for twiddling, and a DVB-TV card for Freeview flicking. In short, it's a capable and well-appointed basis for a media centre system, requiring only a few components to finish it off. Now if only it didn't look like a discarded prop from *Red Dwarf*...

AI Bickham

<b>Form factor</b>	Custom
<b>CPU support</b>	Pentium D
<b>Motherboard</b>	Custom Gigabyte
<b>RAM</b>	Up to 2GB DDR2 5333/667
<b>Graphics</b>	Intel integrated
<b>Audio-out</b>	Standard headphone jack (7.1 support), SPDIF
<b>Video-out</b>	Component, DVI, S-Video
<b>I/O</b>	2x1394, 4xUSB2.0, Ethernet, multi-card reader

**80%** PCF says... "A cheap start to Viiv and media centre computing."

ALPHA MALE

## Hiper HMC-2X53X MC PC

The sweetest media centre we've ever seen? Is the pope a Catholic?

Price £TBA Manufacturer Hiper Web [www.hipergroup.com](http://www.hipergroup.com)

**H**iper's last media centre chassis, the HMC-1S53A, tickled us pink. A teeny, tiny slip of a thing, just big enough to fit in a micro-ATX motherboard with all the other basic components, it packed in parts with a positively Teutonic level of efficiency. Hiper has done it again, and gone one better, with its new offering – a slimline under-TV media centre PC that's got more in the looks department than pretty much any other chassis out there. The HMC-2X53X is so beautifully designed, it gushes liquid class from every air vent. In short, it's gorgeous.

### PURE CLASS

The HMC-2X53X isn't available alone, however. The basic chassis, which includes a mini-ATX mobo and tiny wireless keyboard, is delivered to system-builders to work in their own specifications of CPU, RAM, graphics and drives. The first version supports Socket 939 Athlon cores, but there's an AM2 'and Conroe versions in the pipeline. Keep an eye on your fave e-tailers' sites for different specifications and prices and, as ever, shop around. Bear in mind that you can eschew a graphics card altogether with this chassis, as the board comprises a GeForce 6150 onboard GPU, which is perfectly fine for media use. If you want to game as well, you'd be

well-advised to find yourself something with more poke – the chassis has a horizontal riser connection which lets you fit a PCI-Express card in there, but it'll have to be slim. Also, there's no HDMI-out on the back panel, so consider this if you're thinking of upgrading the video card.

As an overall package, it's pleasing. From the glossy, black front panel, slot-loading DVD drive, media control buttons and crisp LCD panel on the front, to the huge array of audio and video-out connections on the back (Component, DVI, VGA and S-Video), it has everything you need. There's never been a better time to buy a media centre chassis, and this is the one we'd recommend.

AI Bickham

**Form factor** Mini-ATX

**CPU support** Socket 939 (Sempron/Athlon 64/FX)

**Motherboard** MSI K8NGM2

**RAM** Up to 4GB DDR333/400

**Graphics** Onboard GeForce 6150/PCI-E x16

**Audio-out** SPDIF, 5.1 surround

**Video-out** Component DVI, VGA, S-Video

**I/O** 2x1394, 4xUSB2.0, Ethernet, media readers

**91%** PCF says... "Technically alluring and physically gorgeous. A winner."







**BRIGHT EYE-DEA**

## PTD Eye-Theatre

The ultimate iPod accessory is here, but it's made from oddly cheap-looking plastic...

Price £150 Manufacturer PDT Web [www.eyetheatre.com](http://www.eyetheatre.com)

**T**here's been several stabs at making these in the past, but PCFormat still gets excited at the idea of video goggles. Created for the iPod, they sit atop your noggin and project whatever's playing on to two tiny LCD screens. It feels like you're watching a cinema screen a couple of metres in front of you. Disappointingly, they don't completely fill your field of vision, so you can still see the real world around the edges, but these are certainly superior in video quality to other sets we've seen. You don't feel claustrophobic, get eye strain or motion sickness. Sound is provided by stereo earphones built into the Eye-Theatre's arms.

### DORK HEAVEN

PDT assures us they'll work with the forthcoming Zune and, thanks to an additional lead in the box, they can display almost any video source (NTSC/PAL/SECAM). In fact, we had great fun using them with the TrackIR system ([www.naturalpoint.com](http://www.naturalpoint.com)) for playing flight sims – turn your head to the left to look out of your cockpit window!

For £150, though, they feel too fragile. Give a pair to a five year old for more than two minutes and

you'll have an expensive paperweight, so handle them with care. That's going to be tricky, because you know that as soon as you get a pair, your mates are going to want to have a go. There's also far too many leads involved because the Eye-Theatre needs its own rechargeable battery. But the biggest problem is that you look a right dork when you put them on, and there's no getting around that.

Which brings us to the reason why these have never caught on before – where would you use them? On the train to work? Nah, you'll look an idiot. You're better off sipping sloe gin through a straw, lying on your bed with the lights off watching *Apocalypse Now* and screaming "The horror! The horror!" in your very own private virtual world. **Graham Barlow**

<b>Aspect ratio</b>	4:3
<b>Contrast ration</b>	200:1
<b>Resolution</b>	320x240
<b>Video system</b>	NTSC/PAL/SECAM
<b>Accessories</b>	USB charger
<b>Battery life</b>	Eight hours

**62%** PCF says... "Very cool, if you don't mind looking like Geordi La Forge."

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- 160GB SATA Hard Drive
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- Europec 6 Months RTB Warranty
- Grade: Refurbished

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PN: 102319

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- 200GB SATA Hard Drive • DVDRW Drive • Multimedia Card Reader
- 1 Year RTB Warranty • Grade: Refurbished

**£269** inc vat



PN: 102827

## Famous Brand iMedia 1839

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- Windows XP Media Center • Intel Pentium P4 Dual Core 3GHz
- 2.0GB DDR II SDRAM • 300GB SATA Hard Drive • DVDRW Drive
- Multimedia Card Reader • 1 Year RTB Warranty • Grade: Refurbished

**£399** inc vat



PN: 102800

**DELL**

## Precision 380 Workstation

- 512MB Quadro FX4500 Graphics Card
- Intel Pentium 4 3.8GHz • 2.0GB DDR II SDRAM
- Dual 160GB SATA Hard Drives • DVDRW Drive
- Europec 6 Months RTB Warranty • Grade: Refurbished

**£799** inc vat



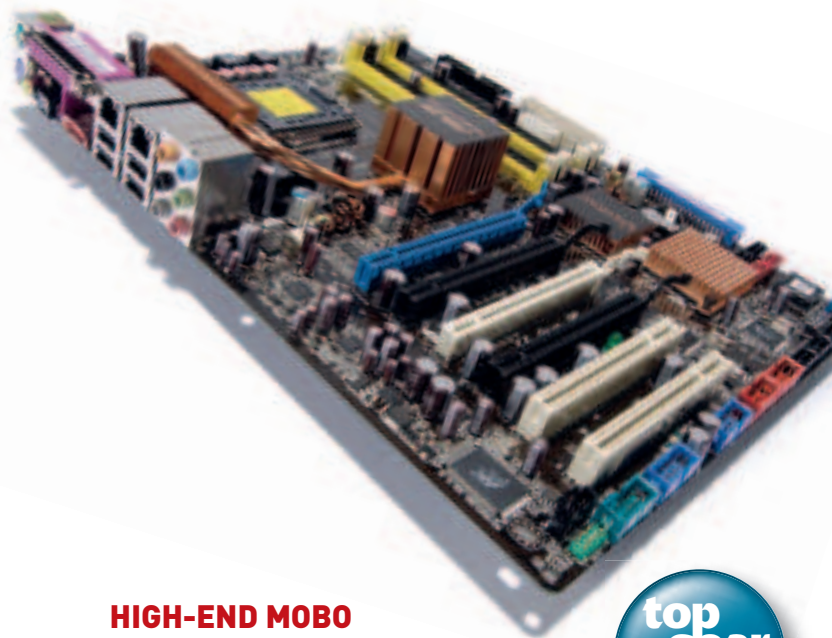
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HIGH-END MOBO

# Abit AW9D-MAX



Jump aboard the fast rolling Core 2 Duo overclocking bandwagon

Price £151 (£129) Manufacturer Abit Website www.abit.com.tw

**H**ead of Core 2 Duo? Want one? What about the motherboard though? It's straightforward on the opposite camp – if you're maintaining your allegiance to AMD, then grab a decent NFORCE5 motherboard, and Bob's moving in with your Aunt. For Core 2 Duo though, you must weigh up the pros of i965 mobos against the cons of i975 and the potential of NVIDIA's chips.

## PUMP UP THE PIXELS

Abit has just confused things by releasing this – an enthusiast board based on Intel's 975X chipset, which has some serious overclocking potential up its sleeve. This is great, as the coolest thing about the Core 2 Duo is its eagerness to run faster. Using a standard Intel cooler we managed to tweak the FSB up to over 275MHz. Overclocking potential aside, this is a decent motherboard in most other areas – decent design and looks, too.

One thing that may shock for such a well-rounded mobo is the rather limited upgrade potential. You do get a pair of full length PCI Express slots for CrossFire setups, and there are a pair of single speed slots nestled between these

(although these will be tricky to access if you've got two 3D cards). There is only one PCI slot present, and while the integrated AudioMax 7.1 audio is decent, you might scupper your upgrade potential by installing a dedicated soundcard.

Intel is charging a small fortune for its premium chipset, and Abit has clearly spent some time tweaking it, resulting in a pretty pricey mobo. But for the money, this isn't half bad, if you're out to overclock a Core 2 Duo. Lack of PCI slots aside, this gets a definite thumbs up. **Alan Dexter**

<b>CPU support socket</b>	775 Core 2 Duo
<b>Chipset</b>	Intel 975X
<b>FSB</b>	1066/800MHz FSB
<b>Memory</b>	4 x DDR2 800/667MHz (8GB Max)
<b>Graphics</b>	Supports dual PCI Express x16
<b>Expansion</b>	2 x PCI Express x 16, 2 x PCI Express x 1, 1 x PCI
<b>Storage</b>	1 x UDMA 100, 4 x SATA, 1 x SATA External
<b>Audio</b>	Abit AudioMAX HD 7.1 (PCIe card)
<b>Ports</b>	8 x USB 2.0, 2 x IEEE1394a, 2 x Gigabit Ethernet, 2 x PS/2, VGA
<b>Form factor</b>	ATX

**88%** PCF says... "Limited expansion, but still an overclocker's dream."

## CHEAP AND CHEERFUL

# Sapphire Pure Element AM2

Still refusing to totally give up on AMD? Then take a look at this...

Price £50 (£43) Manufacturer Sapphire Technology Website www.sapphiretech.com

**S**o, you've bought an AM2 processor, or maybe you're thinking of buying one – they are cheaper after all. When it comes to motherboards, Nvidia and its nForce range hold the way here, but ATI isn't far behind, but what about integrated solutions? This is somewhere that Sapphire, ATI's main ally, could really do well, and the latest release of the Pure Element motherboard hopes to tap into this market.

## NO GAMES, PLEASE

To be honest though, integrated graphics are rarely better than miserable, and although the Pure Element's X300 engine is much better than the standard fare, only a secondhand PC dealer could actually call it good. If you're looking at playing the likes of *Oblivion* or *F.E.A.R.*, then you've come to the wrong place, but it's fine for pushing around the odd basic triangle at lower resolution. The engine does support output through the TV out and VGA ports up to 2,048x1,536 though, so if you fancy pushing out some HD content, then this should be enough. This isn't an X1x00 series engine though, so don't expect any hardware acceleration for you,

movies. Thankfully there is a full 16x PCI Express slot should you want to up the power.

The audio is acceptable, and this board could easily form the heart of a lounge media machine. Of course, this is a full ATX mobo, so such a rig would be a little on the large side.

This board is clearly worth considering if you are tapping into the great value of AMD's current range of chips. Don't expect too many thrills for your money though, such as overclocking, or you'll be sadly disappointed. **Alan Dexter**

<b>Socket</b>	AMD AM2 (Sempron, Athlon 64, Athlon 64FX)
<b>Chipset</b>	ATI RS485+SB600
<b>FSB</b>	800MHz – 1GHz
<b>Memory</b>	4 x DDR2 533/667/800MHz (4GB max)
<b>Graphics</b>	Integrated X300
<b>Expansion</b>	1 x PCI Express x16, 1 x PCI Express x1, 2 x PCI
<b>Storage</b>	1 x UDMA 133, 4 x SATA
<b>Audio</b>	HDA 8-channel
<b>Ports</b>	4 x USB 2.0, 10/100Mb Ethernet, 2 x PS/2, serial, parallel, VGA
<b>Form factor</b>	ATX

**77%** PCF says... "Great price, good performance, but limited applications."



More benchmarks and details can be found on your coverdisc





GEARED UP

# Logitech G25

PC race fans – throw down your horrid gamepads and embrace the very zenith of steering wheel design

Price £180 Manufacturer Logitech Web [www.logitech.co.uk](http://www.logitech.co.uk)

**M**arried racing fans avert your eyes, for this may be the undoing of your union. Arrive home with one of these bad boys tucked under your arm and steel yourself for the disapproving look, the weary sigh and the distant rustle of divorce papers. This is the ultimate luxury for a driving game aficionado – the most convincing recreation of a vehicle cockpit outside of flight training school, and one of the sturdiest peripherals ever to endure the PCF Ham-Fistedness Test (patent pending). This is not for the frivolous, though, as only those who regularly rumble around virtual circuits will be able to justify the outlay.

## MATERIALISTIC DESIRE

Still, the wheel couldn't arrive at a better time. With *GTR2* recently wowing even casual racing fans, there's real weight behind the driving sim movement, and nothing enriches the racing game experience more than using a realistic steering wheel.

The first thing that strikes you when you haul this USB behemoth out of the box is just how rugged the entire setup is. The wheel itself is a sturdy hunk of

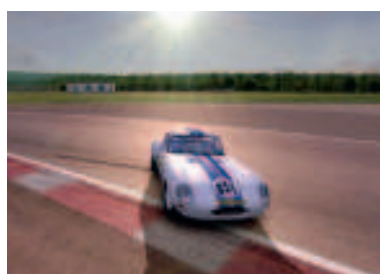
metal and leather with pleasingly tactile paddle shifters; the pedals have fat cylinders surrounding the three shafts and the six-speed gated shifter (a first for a wheel of this price) makes satisfying clicks as it snaps your recalcitrant E-Type into a new gear.

The other big news is that this has 900 degree rotation – that's two and a half full turns of the wheel – but can be tweaked in the drivers to any value in between. While a road-going

**"The only wheel ever to past the PCFormat Ham-Fistedness Test"**

## Aiiiiiiiieee!

What does the clutch pedal do, then?



The introduction of a clutch pedal means that realistic gear changes and the hilarious pastime of drifting are both now possible. Quickly jabbing the pedal unsettles the back of car and causes the rear wheels to slip. Controlling the resultant hair-raising lateral slide truly is an art.

BMW might require the full 900 for realistic handling, an F1 car may only use half that.

The only criticism we have is that the gear gate is a touch too small, meaning lazy shifts can leave the car floundering, though the option to switch to a sequential box is there.

This is the most faithful representation of a racing cockpit you can get for under £500 – the kit is robust, the force feedback is strong, without a hint of buzz from the motors, and there's varied resistance to the pedals. If you've never tried a PC steering wheel before, rest assured the G25 transforms just about any driving game it's plugged into. **Mike Channell**

**Wheel diameter** 11 inches

**Wheel rotation** 900°

**Pedals** Accelerator, brake, clutch

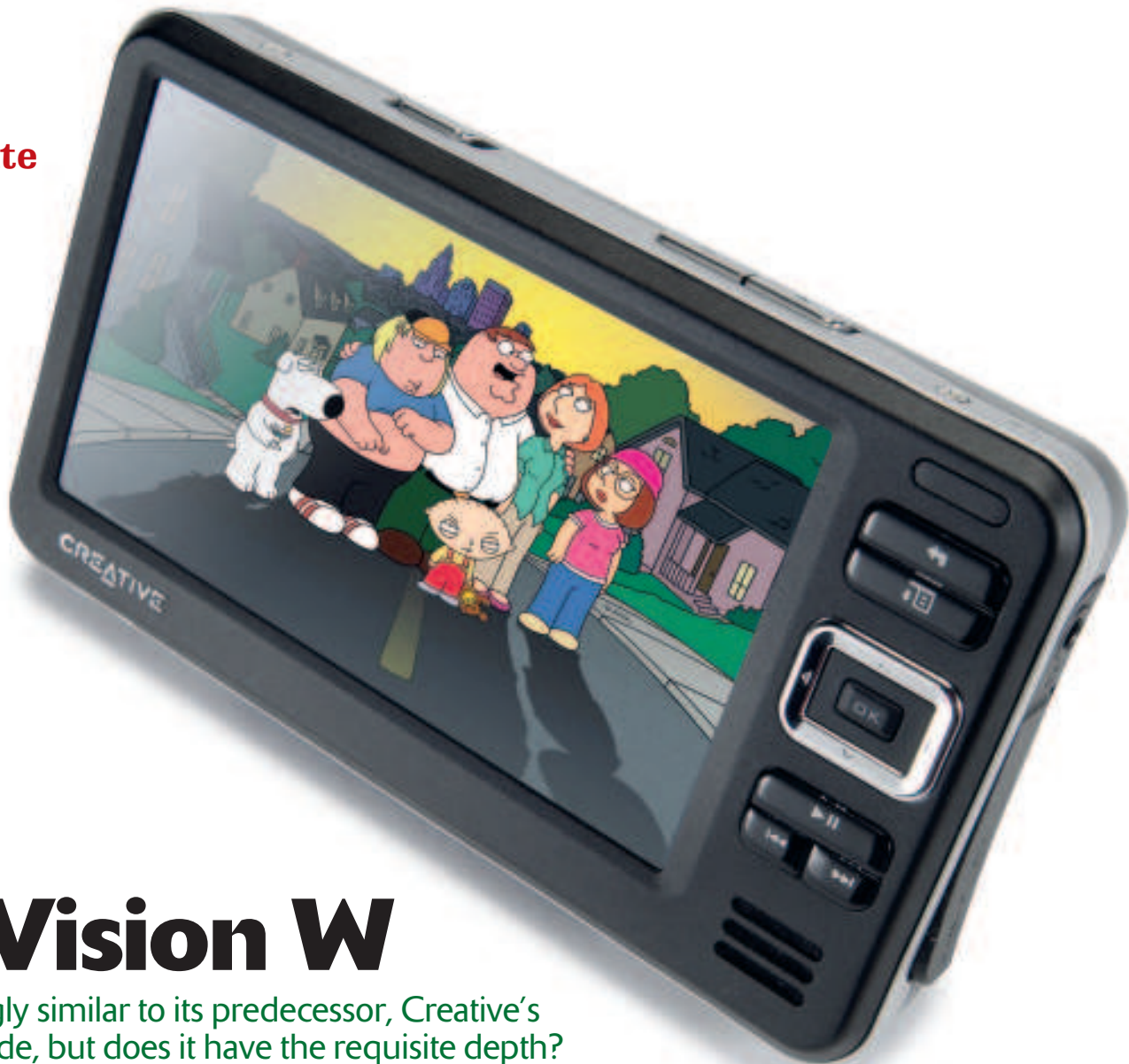
**Gears** Paddles, sequential or six-speed gated shifter with reverse

**Buttons** 10 buttons, directional pad

**92%** PCF says... "If you're a sim-head, this is an expensive but essential purchase."



**"You can  
now watch  
from as acute  
an angle as  
you fancy"**



## ACUTE ATTITUDE

# Zen Vision W

Looking strikingly similar to its predecessor, Creative's latest PMP is wide, but does it have the requisite depth?

**Price** £280 **Manufacturer** Creative **Web** [www.creative.co.uk](http://www.creative.co.uk)

**A**mong the variety of gadgetry that drops through PCF's letter box, there's little more covetable than a PMP. Big, bright screens, sleek form factors and plenty of storage are three of our favourite things, so when a good-quality portable player arrives, we sit up and take notice.

Creative's past efforts in the field have been solid but not exactly incendiary – the original Zen Portable Media Center garnered 80% under test and the following Zen Vision only claimed 79%, thanks to a screen that, while sharp, suffered from terrible viewing angles. Now we're presented with the Zen Vision W, or widescreen for those who don't speak in initials. The best news is that, despite similar aesthetics to the original Zen Vision, those horrendous viewing angles have been given a boot up the backlight. You can now watch from as acute an angle as you fancy, making it great for shared train or plane journeys. Unfortunately, by contrast, the screen resolution has taken a bit of a kicking – to facilitate the widescreen aspect ratio the screen is only WQVGA (480x272), which is a substantial downgrade from the Zen

Vision's pin sharp – albeit still 4:3 aspect ratio – 640x480 display.

### DRIVE DIFFICULTIES

The Vision W at least retains reasonably impressive codec support, with DivX, MP4 and WMV all catered for, to some degree, though a lack of compatibility with the rapidly aging DivX 6 or the AVC MP4 codec suggests that there's been little improvement to the software since the original. Unfortunately, while the device interface is clean and easily navigable, the Vision W doesn't appear

as a hard drive in Windows, forcing you to use the pernicky Windows Media Player sync or Creative's own media software. It also means you've got a 30GB (or even 60GB) portable hard drive that you can't use for anything other than media.

Other niggles are minor. Slight horizontal banding during movement on the LCD hardly undermines the bright, ghost-free image and the tinny speaker is a small compromise for the svelte chassis. In general, it's a desirable device, but with the viewing angle the only improvement, there's little to get the pulse racing. **Mike Channell**

## Radio to go

The built in FM receiver is very neat

In a move we've seen on a few of the super-portable players these days, the FM radio in the Zen Vision W requires you to have earphones plugged in. Why? Because it can turn the cable from a boggy set of earbuds into an FM aerial that outperforms the one hidden away inside the chassis. Clever.



**Screen** 4.3-inch

**Resolution** WQVGA (480x272)

**Storage** 30GB

**Connectivity** USB, Compact flash, TV-Out

**Video codec support** DivX 4/5, XviD, MPEG1, MPEG2, MPEG4-SP, WMV9

**Audio codec support** MP3, WAV, WMA

**Extras** Voice recorder, FM radio, slip case, A/V out cable

**78%**

PCF says... "For the moment we prefer quality over aspect ratio."





They may look similar, but underneath there are clear differences in performance.

## PICK A CARD

# Media reader rodeo

Bread-and-butter tech... but if you pay more, do you get better performance?

**W**ith the rise in digital photography, the humble media reader has become a necessity for many. Relying on your camera's USB connection can irk, because it involves hawking around an easily mislaid cable. Much better to have a reader plugged into your PC, eh?

Still, they aren't particularly sexy machines and, chances are, you'll buy the first one you see in its protective plasti-pouch on the shelf. What we want to know is, if you pay more, do you get better transfer rates? If you do, are they significant enough to warrant the outlay?

Some do perform better than others, as our transfer rate tests using *HD Tach* will show. But choosing the right one is pot luck. We chose four multi-format readers, all claiming to have high-speed USB 2.0 transfer rates.

If *PCF* was shallow and image-obsessed it would have immediately plumped for the Lindy 23-IN-1 reader. It's small, solidly built, with a decent metal finish, and is also the cheapest on test. Compared to the plasticised and lightweight nature of the other readers it would be a clear winner, that is, if it wasn't so damn slow. We can thus

**"If *PCF* were shallow, it would have gone for the Lindy"**

discard the Lindy straight away – it bottomed out in the *HD Tach* tests and took almost a minute longer to transfer a 900MB file than the others.

### THE DRIVE OF YOUR LIFE

The Verbatim looks almost identical to the other readers and vies with the Kingston for second place in the *HD Tach* tests, but falls at the last hurdle. It ran nearly 10 seconds behind the top pair when it came to file transfers.

The dearest reader we tested was the Advent, which came out on top in *HD Tach*, doubling the average read and

burst rates of the Lindy. The design is generic and so lightweight you would expect it to blow away in a breeze. But that's not the point: it's practical and, with fast transfer speeds, it rates top in all the tests bar one.

When transferring a 900MB file it was neck and neck between the Kingston and the Advent, with 0.2 of a second separating them. The Kingston got its nose in front, and at a whole five pounds cheaper, it's a deserving winner. Isn't it annoying that a look at the packaging in your local tech shop tells you none of this?

**Dave James**

BENCH MARKS	AVERAGE READ	AVERAGE WRITE	BURST SPEED	FILE TRANSFER	RESULT
<b>KINGSTON 15-IN-1</b> £15 <a href="http://www.kingston.com">www.kingston.com</a>	9MB/s	6MB/s	9.2MB/s	2min 46secs	<b>PCF says...</b> "Fast and functional." <b>81%</b>
<b>ADVENT ALL-IN-ONE</b> £20 <a href="http://www.currys.co.uk">www.currys.co.uk</a>	10.8MB/s	6MB/s	11.2MB/s	2min 46secs	<b>PCF says...</b> "Fast, but more expensive." <b>79%</b>
<b>VERBATIM 11-IN-1</b> £15 <a href="http://www.verbatim-europe.com">www.verbatim-europe.com</a>	9.8MB/s	5.5MB/s	10.1MB/s	2min 53secs	<b>PCF says...</b> "Can't quite keep up." <b>76%</b>
<b>LINDY 23-IN-1</b> £13 <a href="http://www.lindy.com">www.lindy.com</a>	4.8MB/s	4.7MB/s	4.9MB/s	3min 36secs	<b>PCF says...</b> "Solid, but slow." <b>66%</b>





## MIDNIGHT RAMBLER

# Fujifilm FinePix F30



Blinding mates with your camera flash? Or do you want to take discreet night shots?

Price: £259 Manufacturer Fujifilm Web www.fujifilm.co.uk

**W**e're spoilt for choice with compact digital cameras, and it's hard for photo firms to make their snappers stand out. They used to go in for shouting about their megapixel count, but with punters realising that more megapixels don't necessarily make a better camera, manufacturers have to find other features to impress.

The F30 features an extra-high light sensitivity – or ISO rating – up to an unprecedented 3200 at full resolution. This means that the camera can practically see in the dark, taking attractive photos in shadow, or the middle of the night, without needing to use the flash.

## DARKNESS REIGNS

That's the good news but, as ever, there's a price to pay. As camera enthusiasts will know, the price of higher ISO settings is increased noise – speckling and graininess in the darker areas – as the smaller sensor struggles to cope. While Fujifilm has done well to keep the noise down at the higher ISO levels, it's a problem at ISO3200, and it's the kind of noise that's hard to remove with software. On the other side, you don't need to go as far as 3200 to take

advantage of the low-light capabilities. It takes good shots at ISO 400 to 800, which is much better than you normally get with compact cameras in this price range. Many users will put up with noise in return for not having to use the flash. Another advantage of higher ISO is reduced camera shake, especially at a shutter speed of 1/250th of a second.

Other selling points of this attractive compact include a 6.3 megapixel sensor, choice of colour modes and impressive battery life. The Fujifilm is easy to use, too, with clear menus and a generous LCD viewfinder. Our only gripe is that you're forced to use xD cards, rather than cheaper SD cards that are available.

Geoff Harris

<b>Megapixels</b>	6.3
<b>Max image resolution</b>	2,848x2,136
<b>Memory</b>	xD
<b>Optical zoom</b>	3x
<b>Batteries</b>	Rechargeable Li-Ion
<b>LCD</b>	2.5 inch
<b>Exposure modes</b>	Auto, Ap, Sp, M, 16 scene modes
<b>Shutter speed range</b>	15s-1/2,000sec

**90%** PCF says... "A highly flexible compact that's a perfect family snapper."

## BETA MALE

# Sony Alpha A100

Sony unleashes its first budget SLR. Will it emerge as top dog, or lap dog?

Price: £600 Manufacturer Sony Web www.sony.co.uk

**B**udget SLRs – by which we mean reflex cameras with inter-changeable lenses under £700 – are still popular, as they offer superb quality and flexibility at keen prices. Sony has shied away from this market so far, lacking the lens credibility to take on the big camera firms, but its acquisition of Konica Minolta's camera business in January changed that. The Alpha is Sony's first budget SLR and takes its cues from the discontinued but well-regarded Konica Minolta 5D SLR.

In terms of technology, the Sony is cutting-edge. As well as a state of the art 10 megapixel sensor, it comes with powerful anti-shake technology and the oddly named Bionz image-processor to extend the camera's dynamic range. Another welcome addition is anti-dust technology, to reduce the risk of dust getting into the camera when you change lenses. The lens has a fancy coating and the sensor momentarily vibrates at high speed when you turn it on.

## BUDGET STYLE

We also like the supplied lens, which at 18-70mm, is longer than you get with the Nikon D50 or the Canon EOS400D. It's good quality, too, with minimal aberration.

So why aren't we hailing the Sony as the new budget SLR king? For several reasons. Even at a discounted £600, we think it's pretty expensive when you can bag the superb Nikon

D50 for £200 less. The D50 has fewer megapixels and a shorter lens, but these aren't deal breakers – the D50 takes fantastic shots out of the box. The Alpha also suffers from more noise than we would like, too, particularly when taking indoor shots. While it's not a major problem, you can get better picture quality for less.

The build quality also worries us. The Sony has a plasticky feel, and we're not convinced it's as sturdy as the Nikon D50. The final issue is that it will only take Konica Minolta lenses and flash units. Unless you're itching to use your KM lenses, hold off until the price falls – and don't forget the 10Mp Canon EOS400D SLR is out soon, too.

Geoff Harris

<b>Megapixels</b>	10.2
<b>Max image resolution</b>	3,782x2,592
<b>Memory</b>	Compact flash
<b>Lens</b>	18-70mm kit
<b>Lens mount</b>	Sony/Konica Minolta Dynax
<b>Battery life</b>	750 shots
<b>LCD</b>	2.5 inch
<b>Exposure modes</b>	Auto, P, A, S, M, Portrait, Landscape, Macro, Sports, Sunset, Night
<b>Shutter speed range</b>	30-1/4,000sec

**83%** PCF says... "An SLR with cutting-edge extras, but we'd still shop around."





Ultralight laptops

Portability  
and power in  
a single package?  
As **Jeremy Laird**  
discovers, ultralight  
computing is now nearly  
compromise-free

# PINT-SIZED POWER HOUSES!

Photography Philip Sowels



**Life for the prospective**

laptop owner used to be simple. Portable systems fell into one of two categories. Big or small? Powerful or portable? Lightweight or luggable? You asked yourself these simple questions, you paid your money and took your choice. But not any more. Today, the laptop market is a niche-infested jungle of seemingly infinite form factors and feature sets.

So it goes with this month's ultralight group test. Even among this superficially homogeneous gathering, there's serious deviancy. Form factors range from the impossibly tiny and vanishingly thin 11.1-inch Sony TX3 to the rather chunky Acer Ferrari and Toshiba Portege lumps. Chunky, that is, for 12-inch featherweight systems. Likewise, a wide range of CPU options are represented, including Intel's preposterously parsimonious Core Solo Ultra Low Voltage chip, the now familiar Core Duo dualie and even the fancy new Core 2 Duo powerhouse running in excess of 2GHz. AMD's dual core Turion 64 X2 also makes an appearance.

Even with ultralights, there are tricky choices to be made. Do you demand a desktop-rivalling multi-core in a pint-sized package? Or is a machine that's capable of staying conscious when deprived of mains power your priority?

You must also pick your poison in terms of screen aspect ratios and LCD panel types. Plain Jane 4:3 aspect ratio displays, and more cinematic 16:10 and 16:9 widescreen panels are on offer. This month's menagerie also includes both conventional diffuse anti-glare

**HOW WE TESTED**

Picking a perfectly representative model for the purposes of battery life assessment is near enough impossible. After all, the combination of a spinning optical drive and a spot of video decode number crunching during DVD playback will wipe out a lithium cell far more rapidly than pecking the occasional character into a word document. Still, this is *PCFormat* and not *Business Machines Monthly*, so a video playback run-down test it is. Because the IBM/Lenovo system lacks an optical drive as reviewed, we used VLC media player to loop a single, hard drive stored MPEG2 VOB file. Screens were set to half brightness and the most aggressive power-saving options were selected.

In terms of mains-powered performance, we ran each system through a high-definition H.264 video decode test and a dash of 3D gaming courtesy of *F.E.A.R.* running at 640x480 with most of the rendering options enabled but the anisotropic filtering and anti-aliasing off.

panels and showbiz screens with brightness and contrast ratios that give decent desktop monitors a run for their money. What's more, don't forget to take pixel pitch into consideration. You'll need decent vision to make comfortable use of the high-density displays on offer from the Sony Vaio and Toshiba Portege systems. The upside is boosted desktop real estate, pin-sharp clarity and enough pixels to do justice to high-definition video.

And just to confuse the issue, Toshiba's Portege M400 isn't just an unusual 4:3 aspect 12-inch system with an enormous 1,400x1,050 screen resolution. It's also a full-blown Tablet convertible, complete with digitising screen and stylus. Tablet PCs aren't for everybody, but if the Portege can offer Tablet functionality without any significant compromises, it's certainly an intriguing option.

**PICK YOUR PROCESSOR**

Low-power and high-performance – that's the holy grail. But is it possible?

Piddle poor battery life – it's the exception to the rule of faster, better and cheaper PC technology. If the battery life of portables had improved as much as their processing power over the past five years, mains-free time would be measured days.

That's down to incremental, rather than revolutionary, improvements in battery technology. But it's also a result of the PC processor industry's obsession with sky-high clockspeeds and outright performance. Until recently, that is, when Intel saw the error of its ways with the baked-out, overclocked Pentium 4 processor and shifted its focus away from performance to a new metric

– performance per Watt. The Pentium M mobile CPU was the first processor to be conceived in this brave new age of low-power processing. Today, Intel has shifted its consumer product line to the efficient Core architecture.

The original Core Duo and the latest Core 2 Duo mobile processors are capable of moving through a range of power states including Active, Halt, Clock Stopped, Sleep, Deeper Sleep and Enhanced Deeper Sleep. Each state pushes the chip deeper into a coma, reducing power consumption. Of course, the deeper the sleep state, the longer the chip requires to wake up. But whatever the power state, resume periods are

measured in fractions of a second. Core Duo and Core 2 Duo processors boast dynamic cache-sizing technology, which disables and powers-down unused sectors of the shared cache memory pool. Add in finely grained voltage and clock frequency controls and you have real power savings.

As for AMD's Turion mobile chips, the latest X2 dual-core processor offers the same power state mode except Enhanced Deeper Sleep. However, although the Turion X2's 35W rating is similar to the standard Core Duo and Core 2 Duo chips (31 and 34W respectively), AMD has nothing to compete with Intel's low- and ultra-low voltage models.

**Sony Vaio VGN-TX3XP****£1,699**Manufacturer Sony Web [www.sonymstyle.co.uk](http://www.sonymstyle.co.uk)**91%**

Books could, and very possibly will, be written on the subject of this ridiculously desirable laptop's myriad of features and capabilities. But we've only 200 words to spare, so here's a whistle-stop tour of the main highlights: lightweight carbon-fibre construction, an 11.1-inch LCD screen with a native resolution of 1,366x768, power-saving and colour-enhancing LED backlight screen technology, a security-enhancing fingerprint scanner and a quick-booting CD and DVD multimedia playback mode.

However, there are two further features that really mark this system out from the braying horde of commodity-item laptops. The first is size. Granted, we've seen systems this small before. But how Sony managed to squeeze a full-function DVD burner into a laptop chassis that's so small it literally disappears into a shoulder bag, we'll never know. Awesome indeed.

But not quite as awesome, however, as the TX3's ludicrous battery life. By returning more than six hours in our video decode battery test, it lasted twice as long as any other system. Switch to light document editing and eight hours or more is possible. In fact, the only downside is some slightly sluggish performance. If you're used to a dual core desktop, you'll find the TX3's 1.2GHz Ultra Low Voltage Core Solo CPU only adequate at best.

**"How Sony has squeezed in a DVD burner, we'll never know"**





## MSI Mega Book S262

**£1,000 (estimated)**

Manufacturer MSI Web [www.msicomputer.co.uk](http://www.msicomputer.co.uk)

**88%**

At first glance, MSI's latest 12-inch offering is anonymous to the point of invisibility. The no-frills, frisson-free styling is straight out of the Taiwanese textbook on no-brand laptop design. But make no mistake, familiarity with the Mega Book S262 will breed real respect for the machine.

For starters, the build quality of the chassis is extremely solid and reassuring. Likewise, the screen hinge is seriously substantial. Overall, this is by far the most robust feeling system here. That's saying something when there's a Thinkpad in the reckoning. The downside, of course, is mass. A kerb weight of 1.95Kg means only the portly Toshiba Portege Tablet convertible is heavier, mind you. Still, the 12-inch glossy LCD is a great performer with good brightness and the best viewing angles here.

But most impressive is the Mega Book's combination of massive computing grunt and decent mains-free staying power. The former is a function of the Core 2 Duo processor, clocked at 2.16GHz and supported by a 667MHz system bus. Bung in 1GB of DDR2 memory and the result is genuinely desktop-rivalling performance. This is the only system capable of smoothly decoding our H.264 HD video file. And all the while the Mega Book returns nearly three hours of battery-powered video playback. Put simply, we want one.



**"The build quality of the chassis is extremely solid and reassuring"**



## Toshiba Portege M400

**£1,400**

Manufacturer Toshiba Web [www.toshiba.co.uk](http://www.toshiba.co.uk)

**75%**

If you had to choose a notebook as a demonstration of the state of the art in 2006, it would be a tough call between the delectable Sony Vaio and Toshiba's Portege M400. Granted, the Sony turns more heads, but no other notebook on test can top the Portege's incredible feature set.

First up is the Core Duo processor humming a 1.83GHz tune and 80GB worth of hard disk. Then there's the 12-inch LCD display. Unlike the similarly proportioned screen in the Lenovo X60s, the Portege's panel sports an enormous 1,400x1,050 native resolution. That's more than any 19-inch desktop LCD monitor on the market.

But the real party piece is, of course, the swivelling touchscreen display complete with Microsoft's Windows XP Tablet Edition OS.

Sadly, however, the M400 fails to add up to the sum of its parts. For starters, it's simply too big and heavy to be comfortably used as a Tablet PC. What's more, in typical Tablet PC fashion, the digitising element of the 12-inch panel does an excellent job of fogging up what's otherwise an excellent display. To make matters even worse, performance is compromised by both the stingy 512MB of system memory and the ridiculous quantity of gunk that Toshiba configures as standard. How does 71 processes from a cold boot grab you?



## Acer Ferrari 1000

**£1,349**

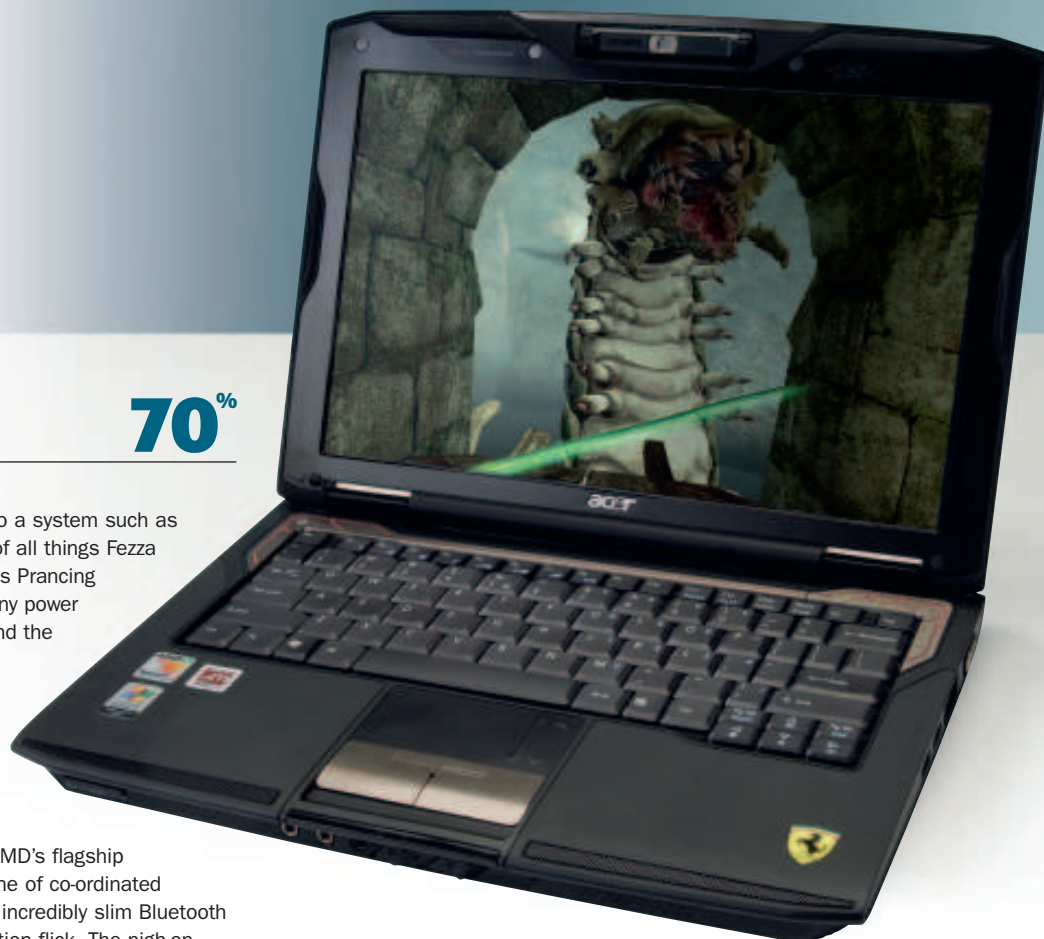
Manufacturer Acer Web [www.acer.co.uk](http://www.acer.co.uk)

**70%**

Is there any point in applying objective criteria to a system such as the Acer Ferrari 1000? After all, if you're a fan of all things Fezza there's little doubt you'll get off on the gratuitous Prancing Horse badging, faux-carbon trim and snazzy, shiny power lights. But if you're not, well, the chintz factor and the premium pricing, for what's in many regards a system with mediocre specifications, will probably rule it out before you've given any consideration of its technical merits.

In fairness, however, the Ferrari 1000 is extremely well-hewn and stands among the most pleasing chassis plastics on test. It also packs dual-core processing power courtesy of AMD's flagship Turion X2 TL-60 2.0GHz processor and a nice line of co-ordinated peripherals, including a wireless mouse and an incredibly slim Bluetooth VoIP handset that's straight out of a science fiction flick. The nigh-on three-hour battery life is pretty solid, too.

That, however, is where the good news ends. The Turion X2 chip struggles to match Intel's Core Duo CPU, much less the monstrous Core 2 Duo. And the 12-inch widescreen glossy LCD panel is pretty pedestrian in terms of brightness and viewing angles. But worst of all, Acer has failed to integrate the DVD drive into the chassis proper, selecting instead to supply a firewire-interfaced external drive.



**"The Ferrari 1000  
boasts one of the  
most pleasing  
chassis on test"**



## Lenovo IBM Thinkpad X60s

**£1,515**

Manufacturer Lenovo Web [www.lenovo.co.uk](http://www.lenovo.co.uk)

**70%**

Keep it simple, stupid. If there's a manual somewhere that helps Lenovo's engineers stay true to the long-established no-nonsense design ethic of Thinkpad notebooks, we'd wager that very phrase takes pride of place. Not for the Lenovo the garish lights and gaudy faux-carbon trim of the Acer Ferrari or the fancy glossy-surfaced LCD panel of the Sony Vaio. Instead, the X60s is a study in understated quality, and function over form. It's also the second smallest system here. Only the ludicrously Lilliputian Sony Vaio is more compact.

It's extremely disappointing, therefore, to find that Lenovo failed to find space for an optical drive of any kind. That said, the business target market of the X60s probably won't miss it. Can't have those corporate drones wasting time on watching movies, eh?

There is, however, absolutely no excuse for the catastrophic quality of the 12.1-inch LCD screen. We can cope with the conservative 4:3 aspect ratio and XGA native resolution. But the tragic viewing angles, crappy contrast and washed out image quality are inexcusable on a £1,500 system. Which is a shame, because the X60s is quick, thanks to a Core Duo processor, and has a great feature set including 3G mobile data connectivity.



## Joint honours

When it comes to ultralight laptops, less is most definitely more

First, a word of warning. With regard to the 3D rendering capability of these systems, our best advice would be gamers be gone. Every system in this group test is powered by an integrated video card. And none, including the Radeon Express 1150-equipped Acer Ferrari, get within flirting distance of being a gaming device. For the record, Dell offers a 12-incher with a discreet GPU. But it wasn't available in time for this test. In any case, it's a lowly GeForce 7400 affair, not a genuine gaming chip.

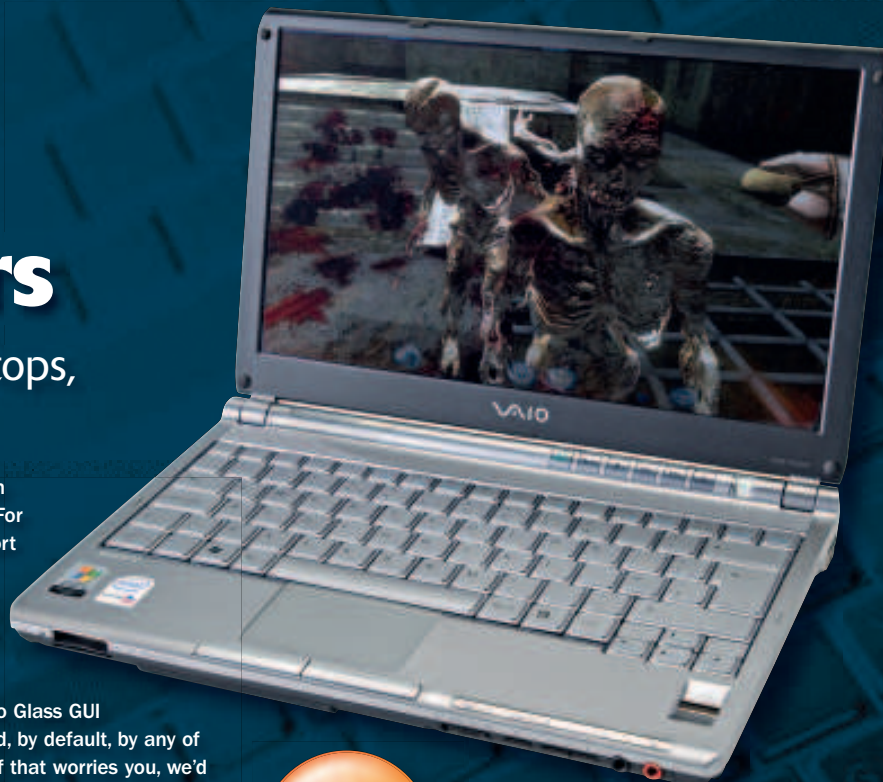
Moreover, question marks remain regarding the ability of many of these

notebooks to run Windows Vista. For sure, several sport Vista Capable badges. However, it's unknown, for instance, whether the Aero Glass GUI will be supported, by default, by any of these systems. If that worries you, we'd strongly advise you postpone making your purchase until Vista eventually arrives, just to be certain.

But on to our winners. That's right, winners, plural. It may be predictable, but Sony's Vaio TX3 is just too good not to saunter off with the overall spoils. It's so nearly everything we want from an ultraportable – the screen rocks and the battery life is frankly insane. However, it's pretty pricey and not all that powerful. Therefore the real-world prize goes to



MSI's Mega Book. It's not the awesome technical achievement that the Vaio is, but it's powerful, it's flexible, it's affordable and it has solid battery life. Most of all, it's an extremely attractive ownership proposition. **PCF**



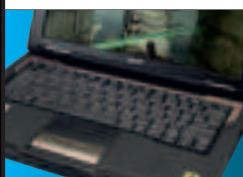
**"Sony's Vaio TX3 is too good not to saunter off with the spoils"**

## IN DETAIL Looking for perfection in all aspects

**£1,349**

**Acer Ferrari 1000**

**70%**



**£1,515**

**Lenovo IBM Thinkpad X60s**

**70%**



**£1,000 (est)**

**MSI Mega Book S262**

**88%**



**£1,699**

**Sony Vaio VGN-TX3XP**

**91%**



**£1,400**

**Toshiba Portege M400**

**75%**



Manufacturer	Acer	Lenovo	MSI	Sony	Toshiba
Processor	AMD Turion X2 TL-60	Intel Core Duo L2400	Intel Core 2 Duo T7400	Intel Core Solo U1400	Intel Core Duo T2400
Chipset	ATI Radeon Xpress 1150	Intel 945	Intel 945	Intel 945	Intel 945
Screen	12.1-inch, 1,280x800	12.1-inch, 1,024x768	12.1-inch, 1,280x800	11.1-inch, 1,366x768	12.1-inch, 1,400x1,050, touchscreen
System memory	2GB	1GB	1GB	1GB	512MB
Hard disk	160GB	80GB	60GB	80GB	80GB
Optical Drive	DVD DL +/-	None	DVD DL +/-	DVD DL +/-	DVD DL +/-
Dimensions	302x221x21mm, 1.7kg	268x211x28mm, 1.33kg	303x225x30mm, 1.95kg	272x195x28mm, 1.25kg	296x249x39mm, 2.05kg



# Pocket money pages

**SUB-£100  
GOODIES  
FOR THE  
BARGAIN  
HUNTER**



## Antec TP3-630 Trio

One, two, Trio? What exactly does that mean?

Price £77 Manufacturer Antec Web www.antec.com

**W**hen we think of Trio, we can't help but think of the chocolate bars. You remember, the ones that were like a Club, but not as popular. Anyway, you'll be pleased to know that there's no confectionery stuffed inside this PSU, the Trio simply refers to the fact that it has three 12 volt rails, separating components for increased stability.

The PSU itself is a 650W unit and looks decidedly dull in its battleship grey enclosure. We're also none too keen on the splayed wires that cascade from the back and, having been spoilt with modular power supplies during our roundup last month, we know they're fairly unnecessary. The only bit of extra fluff you get is dedicated case fan control via specialised plugs.

All in all, the Antec Trio does feel rather bog standard. The addition of an extra rail on the standard spec is welcome, but in no way exceptional when we've seen units with four, and even five, separate rails. Worse, we're entirely tired of the wiry tangle of cables – bring on the modulars, Antec.

**73%** PCF says... "This is entirely standard fare and we're decidedly unthrilled."



## iHome iH5R

Price £99 Manufacturer iHome  
Web www.ihomeaudio.com

We've come up with a great concept – iPod trousers. They're like the slacks you'd pick up for £20, but we'd make them in brilliant white with an iPod-shaped pocket and charge £50 for them – 250% of what they're worth. Then we'd retire to our villa in the south of France. Incidentally, meet the iHome iH5R. It's a white alarm clock, much like the ones you can buy in Boots for £20, but it also allows you to plug in an iPod and control it by remote or use it as a wake-up call. It does these things perfectly well, but it costs £100 when it should be £40 at the most. iTrousers, we tell you, they're the future.

**74%** PCF says... "It's good but, like most iPod kit, overpriced."

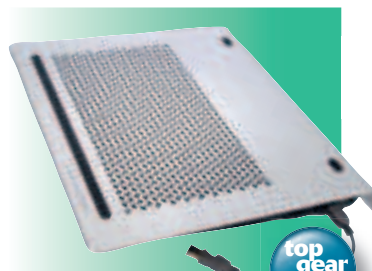


## In-Win O3 case

Price £65 Manufacturer In-Win  
Web www.in-win.com

This case, which hails from the little-known manufacturer In-Win, is a reasonably handsome beast. Three cold-cathode halos decorate the sturdy front door and the case itself, we're reliably informed by the box, is fashioned from Japanese ECO steel. Unfortunately, that's where the excitement of this product ends. The interior of the case is spacious, but that's mainly because there's very little in there – no PSU, case fans or mounting brackets to be found anywhere and, other than the clips for the side panel, everything is good old-fashioned screws-and-bleeding-fingertips chic.

**66%** PCF says... "Matches the trend for silver, but hardly thrilling."



## ZM-NC1000

Price £33 Manufacturer Zalman  
Web www.quietpc.co.uk

PCF's battered old Athlon XP-powered laptop is a prime example of why you might well be in need of an external cooler, because it sounds like a over-stuffed vacuum cleaner on the verge of going the way of Monty Python's Mr Creosote. Zalman's notebook cooler isn't quite 'waffer theen', but its brushed-metal look is certainly stylish, and the raised attitude keeps your machine RSI-friendly. The most important thing is the decibel level however, and Zalman's ZM-C100 keeps the noise down significantly while still pumping out the seriously chilled vibe your laptop needs to keep cool.

**83%** PCF says... "Solid, sleek and it's oh so quiet."



## Knomo iPod Video Case

Price £29 Manufacturer Knomo  
Web www.knomo.com

We've always had a quiet admiration for Knomo's approach to tech accessories. Realising that even geeks yearn to look stylish every once in a while, Knomo has formulated a tat-free range of leather cases for the catwalk-conscious techie. Unfortunately, while our measly journalists' wages won't stretch to a £150 laptop sack, the company's iPod cases have captured our very hearts with their sturdy leather design, easy access to all the important fiddly bits and a bearable price tag. As such, this iPod video case comes wholeheartedly recommended by us.

**90%** PCF says... "Smart, sturdy and pretty cheap for cowhide."





## USB Missile Launcher

Lunchtime becomes launch time...

Price £25 Manufacturer Classified Web [www.netpcdirect.co.uk](http://www.netpcdirect.co.uk)

**W**ith the sunny days of summer gone and the rain clouds descending, we need things to brighten up our lives in the dour winter months. Needless to say, this little gizmo has brought all the joys of tactical warfare to our deskbound afternoons.

Lining up our retro toy targets (Optimus Prime and the Hoff in his *Knight Rider* get-up), we settled down in front of the simplistic command centre, slowly rotated the launcher via the software and hammered the fire button. After a poorly timed explosion sound effect, one of the chest-wig seeking darts was volleyed at Michael Knight, promptly knocking him off the top of Alec's PC. Optimus was the next to feel our wrath in a surgical strike worthy of Bushy himself (although we managed not to kill any of our own boys).

This is great, but perhaps the only time it's worth £25 is for the pleasure of giving it to a tired office mule. Otherwise it seems expensive for a plastic novelty. Still, we had fun, as you can see from [tinyurl.com/lz7rz](http://tinyurl.com/lz7rz).



## USB 2.0 Cup Warmer

Price £14 Manufacturer Special EFX Web [www.efx.co.uk](http://www.efx.co.uk)

PCFormat is fuelled almost entirely by acrid, metallic machine coffee. It tastes like the scrapings of a silage pit when it's hot, but when the heat escapes it's literally undrinkable. We genuinely hoped this USB warmer would mean an end to absent-mindedly taking a mouthful of cold, rotten corpse water, but unfortunately it's about as effective as a rain dance. The majority of the plate doesn't heat up at all, save for a tiny patch in the centre, which is hot enough to sear flesh. Unfortunately, unless you have a steel mug, and frankly we don't intend to buy one, your liquid beverage remains defiantly cold.

**55%** PCF says... "Well, at least it's also a USB 2.0 hub"



## Durable Superclean Box

Price £5 Manufacturer Durable Web [www.durable-cleaning.co.uk](http://www.durable-cleaning.co.uk)

Anyone who owned a PC in the days of the beige box will know how much of a grime magnet computer equipment is, and the PCFormat filth pit is no exception. Luckily, these slightly moist wipes seem to do the trick, removing the layer of grime that coats our systems with relative ease. We even found that, thanks to the lack of alcohol, they work well as a LCD screen cleaner, leaving no residue behind to impair your viewing, and managing to refrain from turning our £300 panel into a fizzing, bubbling heap. We also happen to think that under a fiver is a reasonable price for 100 wipes.

**88%** PCF says... "If there's wiping to be done, you could do worse."



## VF900-CU LED VGA Cooler

Price £30 Manufacturer Zalman Web [www.quietpc.com](http://www.quietpc.com)

People are just coming around to the idea that it's okay, and somewhat beneficial, to change from that tired, old-style cooling CPU fan to one that actually works and doesn't sound like it's about to take off. Yet hardly anyone ever bothers to change their graphics card fan. We've tried a couple of replacement GPU coolers in the past and found ourselves covered with thermal paste in the process, which isn't the best fun you can have with a graphics card. The VF-900, on the other hand, is actually a joy to fit. It's just as easy as replacing the heatsink on your CPU.

**85%** PCF says... "Simple to fit and a lot quieter than ATI's fans."

# Long term test

## RATINGS BEYOND THE WARRANTY

### Microsoft Sidewinder Force Feedback 2

**T**he joystick is dead. Its heir, the gamepad, is a snivelling shrimp of a thing, born of the thin bloodline of console usurpers, not the noble lineage of PC flightsticks.

Joysticks do persist, but now they're either cheap tat bundled with new PCs or achingly specific monsters lacking elegance. The Sidewinder Force Feedback 2 is the one true king.

Microsoft got it absolutely right with this minimalist monolith, yet bailed out of the controller business soon afterwards.

Just look at it. Not a button out of place – as though it was

sculpted, not assembled from parts. Then look at the spiky headache of a recent stick such as the Saitek Cyborg Evo. A fine piece of kit underneath, but there's no urge to hold it. The Sidewinder, though – now that you want to grasp. And when you do... Eek. It springs erect instantly – yes, exactly like that analogy I'm refusing to make. It's simultaneously distressing and pleasing. There's a tiny light sensor in the shaft, which when blocked activates the stick and its titanic Force Feedback whether you're in a game or not. It's like arm wrestling a builder. Used today, it's still the perfect balance of form and function – something that's never been true of anything else with Microsoft written on it before now.

Alec Meer



### Tell us yours...

Send us a 200 word review of long treasured kit and if we print it, you'll receive a rugged, long lasting PNY Outdoor Attache 512MB USB memory stick. Mail your reviews to [pcfmail@futurenet.co.uk](mailto:pcfmail@futurenet.co.uk).







**"SVJ is presented as a virtual set of CD turntables"**



The main interface faithfully replicates Pioneer's popular CD decks.

GO PETE TONG

# Pioneer SVJ

The masters of DJ technology enter the virtual mixing market

Price £129 Publisher Pioneer Web [www.djsounds.com](http://www.djsounds.com)

The art of seamlessly mixing music together is a skill that can take years to perfect. The setup of choice for the last few decades has been a pair of analogue turntables, some vinyl and a mixer. Until pressure-sensitive CD turntables hit the market, the digital alternatives didn't offer the control. And you still won't be left much change from £2,000 for Pioneer CDJ-1000 turntables and a DJM-600 mixer.

With the SVJ software, Pioneer is building on its experience in the digital

## YOU SHOULD ALSO CONSIDER...

- >> **Virtual DJ**  
Atomix
- >> **PCDJ**  
Digital 1 Media
- >> **Music Maker 11**  
MAGIX

DJ market to compete with products such as *Traktor*, *PCDJ* and *Ableton*. SVJ is presented as a virtual set of CD turntables with an identical interface to the real ones, except you load MP3s from your hard drive. Anyone familiar with the CD turntables will be at home.

## PLATTERS DON'T MATTER

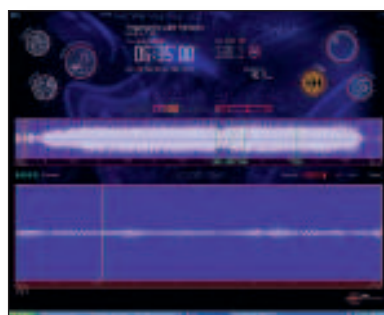
The looping, tempo and synchronization functions of the CD decks are faithfully present in SVJ. There are also a number of additional features, such as hotcues – points in any track within your library that can be played on either deck at the click of a button. You also have the ability to trigger nearly all of the functions in SVJ directly from the keyboard, which is a must for a DJ who prefers a more tactile mixing experience.

The proper way to use SVJ is with multiple soundcards in your computer. One card provides the main audio output, while the other allows you to monitor a different channel. With this setup, it should be possible to play a track, cue up the next one, adjust its

tempo and play it over the top, without your audience having to suffer a failed mix attempt. In addition to mixing, an audio-editing suite is included, offering auto-slicing and more control of your cues. There's also an MP3 ripping tool to build your music collection.

If you intend to use SVJ as a performance tool – and it's more than capable of that – the preferred platform will be a laptop. After all, you don't see DJs carrying MIDI towers into clubs. SVJ is superior to the majority of DJ software, with its intuitive interface and good performance over a range of systems. If you learn all the functions, there are lots of creative possibilities, which will benefit professionals and DJs in the making.

**Orestis Bastounis**



The audio-editing suite allows you to place cue points with digital precision.



**Needs** 1.5GHz CPU, 512MB RAM, 250MB hard drive space, soundcard, CD-ROM

**Wants** 2GHz CPU, 1GB RAM, two soundcards

**88%** PCF says... "Recommended software that's useful for live performance but at a high price."





**"Dark Messiah is a staggeringly ambitious, unrelentingly dark, fantasy combat game"**





There's trouble afoot in the beautiful city of Stonehelm.



Zombies are slow moving but they certainly know how to punch.

high  
score  
PCFormat

HEART OF DARKNESS

# Dark Messiah of Might & Magic

Necromantic swords and sorcery adventure brought to life by the technology of *Half-Life 2*

Price £30 Publisher Ubisoft Developer Arkane Studios Web [www.darkmessiahgame.com](http://www.darkmessiahgame.com)

**C**ombat with guns is easy – any old first-person gore-fest can pull that off. But convincing combat with swords, knives, poles and axes is a different story. Close-contact fighting, has been improving steadily in first-person games in recent years. Sub-Matrix yarn *F.E.A.R.* is a fine example of just how good it can get – where beating people with the butt of your rifle was just as satisfying as unloading a clip – but *Dark Messiah* takes it *much* further.

This is a game where *mêlée* combat is the main event. A swordfight sees you parrying, feinting and dodging and you might even lock swords with an opponent in a vicious test of strength. You can kick people backwards to knock them off their guard, or select the strength of your strike – a flurry of blows might not take him down, but it'll hold him back for long enough to get a proper blow in. A well-placed smack fuelled with adrenaline, meanwhile, can finish a full-strength attacker with a single strike. The final flourish is the deathblow: the grisly execution of a prone assailant. You

have to make sure he won't be getting up for more.

If this carnival of martial art was the sole reason to check out *Dark Messiah*, it would already have been an impressive accomplishment, but there's much more on offer. This is a staggeringly ambitious fantasy combat game, and all the more amazing that this is only the second mainstream game from Arkane Studios, the first being the mediocre *Arx Fatalis*.

One of the striking things about *Dark Messiah* is its tone: it is unrelentingly

## ON THE DVD

- >> Screenshot gallery
- >> Playable demo



## BUY THIS IF YOU LIKE...

- >> *Half-Life 2*  
Valve
- >> *Oblivion*  
Take 2
- >> *Severance*  
Codemasters

## Live and let live

Resist the temptation to kill everything



The two key characters are Leanna (pictured here) and Xana (who is a horny demon girl who lives in your head). Both offer conflicting advice, and while Xana is inside you it's impossible to use certain holy weapons. Leanna a your guide, but it's your choice in the end as to what happens to her.



dark and the storytelling is as hard and ruthless as the butchery you perform on dozens of enemies. Things are not as they seem to you at first glance. You play the innocent protagonist, but it rapidly becomes clear that you are not your own master. Other, greater powers are playing a game that eventually becomes apocalyptic in tone. It's exciting to find a game in which the story has genuine surprises in store, not just in terms of what jumps out at you, but what it all means. About halfway in your begin to wonder who the bad guys really are. In fact, are there any good guys in this story at all?

### INVENTED SPLENDOUR

While *Dark Messiah* largely presents your typical fantasy world populated by orcs, goblins and zombies, it's also dripping with its own unique flavours. From the dull chat between the cleaners working in the necromancer's palace to the freakish chatter between goblins, from the books on tables and the statues in the temples, it's a world that is glowing with incidental detail.

Nevertheless, a couple of the key characters in this drama are, sadly, right out of the nerdlust book of stereotypes. They are the women. Yep, despite of all the stylistic design and gritty intelligence of this game it still delivers its women as sexy mannequins. One drips with innuendo as she whispers into your mind ("if I were there I'd thank you... properly...") while the other is the victim who must be saved, at least on the basis of her tiny skirt and astounding bosoms. Yes, there is nothing in this world so entrancing as a beautiful woman, but *Dark Messiah* isn't celebrating that, it's cheapening it. It's slightly embarrassing.

Anyway, if you can ignore such boorishness then there's a delightfully



Parrying is an essential part of close combat. As is charging maniacally at a foe and decapitating him with one blow.

**"The sheer range of weapons available makes even the small fights thrilling"**

complex game of exploration and combat that lies beyond it. *Dark Messiah's* armoury is pleasingly sophisticated, and it depends on a skill system to properly open it up. In classic

RPG style, you earn experience points as the big obstacles are beaten and you can spend these on a limited tree of powers. This means that you can unlock a mixture of physical and magical powers, some of which

are vital (such as poison resistance for which you'll gnash your teeth until you realise you have to save points up to buy it) while others are entirely optional and

don't really work anyway (like stealth). You never quite specialise, but you can expect to play the game through more than once to see just how different characters would fare.

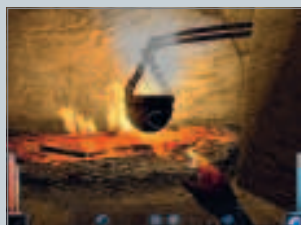
### SEVERED HEADS

These different skill sets provide the basis for opening up various weapon types, so while you can use all the basic swords, daggers, staves and bows, you might not be able to use the higher-level magical items that you'll pick up as you explore. These boost your ability to inflict damage and might have other entertaining side effects too, like setting people on fire or poisoning them.

All this martial intricacy is supplemented by a inventory of useful items (such as magic scrolls and potions) as well as a number of spells. Being able to heal yourself magically is

## Make your own sword

Pick up bars of metal and get smelting



**1** Having found a bar of metal, you can dump it into this crucible and get the fire going. Different types of metal will make different types of sword, so expect some varied results for your smithing.



**2** Pump the bellows to melt the piece of metal down, but you'll have to do it again later when you're hammering the sword into shape. It needs to be kept hot in the coals at all times.



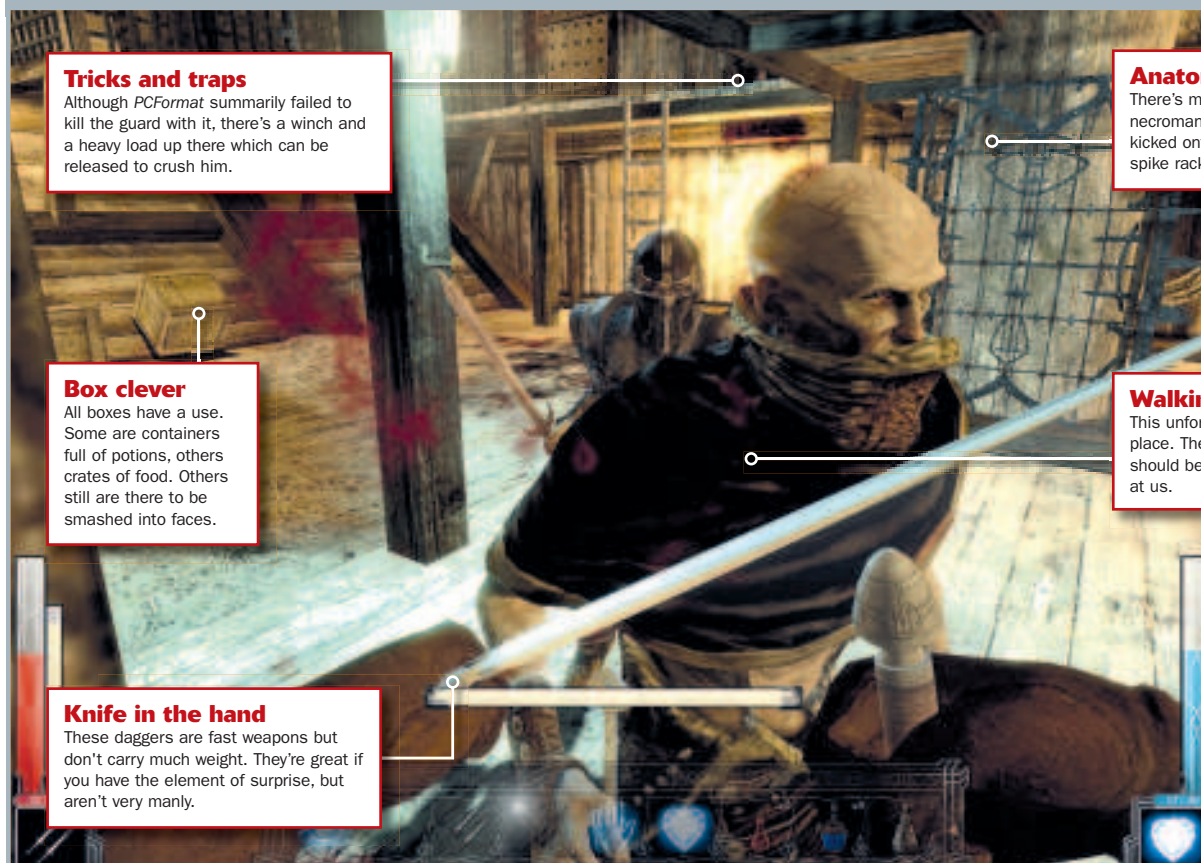
**3** Once you've poured the metal into the mould you can dump it into some water to cool it off. Then there should be a hammer and an anvil nearby. Reheat the blade and hammer it into shape.



Leanna is very interested in making sure that you do the right thing.



# UP CLOSE DAGGERS AND DEADMEN



## Tricks and traps

Although *PCFormat* summarily failed to kill the guard with it, there's a winch and a heavy load up there which can be released to crush him.

## Box clever

All boxes have a use. Some are containers full of potions, others crates of food. Others still are there to be smashed into faces.

## Knife in the hand

These daggers are fast weapons but don't carry much weight. They're great if you have the element of surprise, but aren't very manly.

## Anatomy of a fight

There's more than one way to skewer a necromancer's pet. Enemies can be kicked onto these conveniently placed spike racks.

## Walking dead

This unfortunate wizard is in the wrong place. The knight in the background should be defending while he lobs spells at us.

**"Dark Messiah has some genuine surprises in store"**

essential mid-combat, while using fireballs and freeze-rays can really turn the tide of a major scrap.

The sheer range of tools available to you in combat means that even the smallest fight is a thrilling, open affair. It's always easier to kick someone off a ledge than fight them face to face, while if you can get a backstab on the guard who isn't looking, you really should. But you can also use your environment to a surprising degree – collapsing rickety structures, throwing barrels, kicking boxes, toppling statues or knocking enemies back onto spikes.

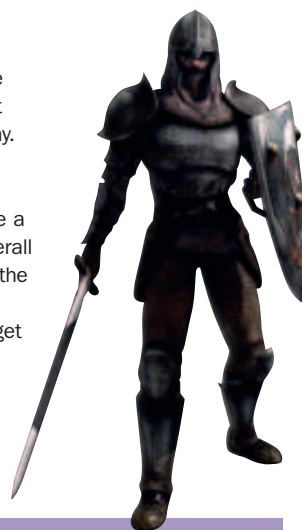
You can also get about in a number of useful ways. While you can run and jump like any standard FPS hero, you can also mantle up to clamber over small obstacles, and climb chains and ropes. There's the potential to use a 'rope-arrow' to climb your way out of death. Clever stuff – and often essential for progress.

All this has ramifications for the multiplayer, which is class-based affair. Success relies on the various kinds of specialist supporting each other, *Battlefield*-style. Heavy knights will need the nippy archers to do damage to spellcasters, while wizards can support every aspect of the fight with their heal

spells and fireballs. It's probably not going to replace any of the big online games as a key favourite, but it's got some real potential for organised play.

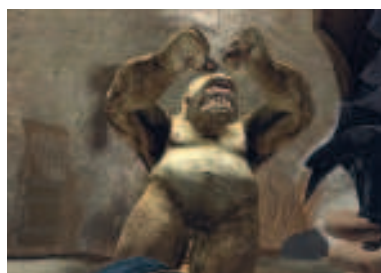
## DARK PARIAH

Despite all this glee-making there are a few noticeable problems with the overall game design, not least of which are the sheer number of instant-death traps scattered around; and you can only get round them by dint of quicksave-foresight. These are completely unacceptable in a game with such elongated loading times, and the inclusion of unavoidable and often



## Monocle man

Slaying the Cyclops is a tricky business.



One of the most powerful creatures in the game is the cyclops. These chaps will pick you up and hurl you like a tiny mouse if you get too close. Impervious to pretty much everything, you can only take them down by hitting the eye. Fortunately most of them can be bypassed easily if you're a sissy...

undetected exploding traps is completely baffling.

The game also demands a monstrous system spec. You might be aware that this is the same game engine as *HL2*, but expect to need a beefier machine than you did for the adventures of Mr Freeman. This one is a hog.

Quibbles aside, *Dark Messiah* is an astounding experience. It manages to create a constant sense of threat, includes some stunning set-pieces, and introduces a cast of breathtaking beasts, all within a combat system that is one of the most versatile and violent we have ever seen. This is the first real use of 'real' combat physics outside of *Half-Life 2* and the results are consistently spectacular. It might not quite be the game of the year, admittedly, but we really can't wait to see what Arkane Studios will do next.

**Jim Rossignol**

**Needs** 2GHz CPU 512MB RAM, 128MB 3D card

**Wants** 3GHz CPU 2GB RAM, 256MB 3D card

**Net gaming** LAN, internet, 16-player

**Discuss** [pcformat.co.uk/mag/darkmessiah](http://pcformat.co.uk/mag/darkmessiah)

**88%**

**PCF says...** "Brutal and brilliant, a truly adaptable creature of combat."





You know, life would be so much better if we could throw fire. And lightning. And morph into monsters.



The plot isn't very long, but it'll take a while to square up to guys like this.



The campaign tends to be murky – Neverwinter, but pretty damn dark.

## INFINITE RPG

# Neverwinter Nights 2

Snuggle up this Christmas with the role-playing game that gives you more than boring old Santa Claus...

**Price** £35 **Publisher** Atari **Developer** Obsidian Entertainment **Web** [www.atari.com/nwn2](http://www.atari.com/nwn2)

**M**uch like the first game, it's impossible to tell you how much fun you'll get out of *Neverwinter Nights*. Oh, the singleplayer game is easily enough covered – if you've played *Knights of the Old Republic*, if you've played a *D&D* game, just mash them together and you'll have a good enough grasp on it. But more on that later.

The tricky part is that *Neverwinter Nights 2* isn't a game with a toolkit, it's a toolkit that happens to come with a game. As with its predecessor, you can

### BUY THIS IF YOU LIKE...

- >> **Gothic 3**  
JoWood
- >> **The Elder Scrolls: Oblivion**  
Take 2
- >> **RPG Creator**  
ASCII / Enterbrain

sit down and make your own epic multiplayer RPGs – dialogues, characters, levels – and in a few months' time, anything in the box will already have been forgotten in the wake of the role-playing community pouring out

**“Whichever way you look at it, Neverwinter Nights 2 is the sequel we've been looking for”**

everything from horridly rendered rooms to full-on multiplayer worlds.

Obviously, we can't factor potential into the score, but remember to keep it in mind. *NWN*'s success proved that if there was ever a special case in game reviewing, it's this one. Keep that in mind as we head into the dungeon on our quest for truth, or at the very least, some gold to waste on floozies.

### THE GAME IN THE BOX

Compared to the original *NWN*'s campaign, *NWN2*'s single-player mode is bliss. It has character. It has satisfying quests. It's more focused on being a game, whereas the first all too often felt like the world's most expensive sample

construction kit project. The *KOTOR* feel is undeniable, from the way that characters in your party affect the encounters you have, to the style of the cut-scenes – but this time around, rather than a couple of static characters, you have the whole *D&D* ruleset to play with. You can be good, or evil; talk your way out of trouble or rush in, swords flailing.

That said, there are some major annoyances. *NWN2*'s construction kit origins make many of the areas feel very samey, as does its tendency to extend quests far beyond their welcome. With your ability to Rest almost anywhere, and a full-team instead of *NWN*'s solitary Henchman, there are few surprises

during your missions, and little challenge – provided you can beat the baddies in the first room, chances are it's only the boss you need to watch out for. In short, when adventuring, *NWN2* is great fun – in dungeon crawl mode, it's fairly weak. You might even say that some of those dungeons really 'drag on', though of course, we're much too polite.

Luckily, these issues don't get in the way too much, and are quickly forgotten once over. The cast is fun, albeit fairly traditional fantasy archetypes, and the writing extremely good. Just little things like characters reappearing after you save them, or the many irrelevant but entertaining little encounters scattered throughout the world, really do a lot. If

## Looking back

What did we get from *Neverwinter 1*?



People are still making *NWN* mods. We've seen MMO-style worlds, both for adventure and just plain chatting. And of course, there have been plenty of new tools, including the Plot Wizard, and tutorials on everything from making chess games to building tilesets. Here's hoping to see all this continue.





Doing the right thing can be trouble, if you meet the wrong people on the road.



Pause the action and enjoy full 360 degree *Matrix*-style demonstrations of your unstoppable power. Fire too.

all you're interested in is the single-player campaign, we're talking around 81%. But onto the real star...

NWN2's big selling point is the Toolset, although it's important to note that it's not a game creation tool in the strictest sense. It's a professional level editor, one that demands a lot of time and effort to learn, and longer still to produce worthwhile content. It's considerably more polished than the version provided with NWN1, but with that comes the need to master many more options.

One of the most important involves the maps. Every area in NWN was made up of pieces of a tileset clicked together

– hills, valleys, houses; everything. NWN2 still uses these tiles for its indoor areas – for instance, instead of carving out a cube and calling it a corridor, you drop down a complete lump of architecture, including columns and statues, then dress it up – but outside areas are now height-mapped, fully painted terrain. This change alone gives you vastly increased flexibility in design.

### STICK TO THE SCRIPT

Similarly, the scripting interface has been greatly enhanced to take things like the new cinematic cutscenes into consideration. This is the trickiest, but most powerful part of the suite. The

**Character generation is insanely in-depth, and every scrap of it can be used by module makers.**



majority follows on from NWN1 – it's the same basic engine – so old hands should be comfortable before too long. Tutorials should be appearing any time... ooh, now. Failing that, you can load up any part of the main campaign and see exactly how it was put together.

Modules built for NWN aren't compatible with NWN2 – and of course, the level geometry is completely different – however the scripts and dialogues should be portable. With the improved editor, we should be seeing plenty of unofficial new content very soon. Officially, things are still up in the air, with no official word yet on *Obsidian/Bioware* releases such as new tilesets, expansions and art-assets.

With or without, NWN2 is the sequel we've been waiting for. With the graphical and systematic changes to give bedroom RPG makers a boost, and a solid single-player campaign to play through while we wait to see what they can do, it's hard to think of anyone who could be disappointed with the contents of this box. Now it's up to the community to put it to use.

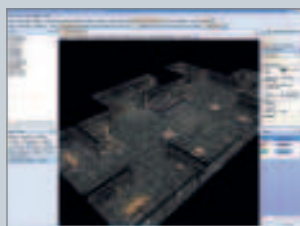
**Richard Cobbett**

## Do it yourself

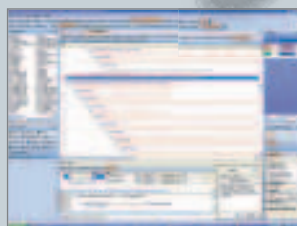
A quick look at the toolset



**1** The prebuilt areas are extremely intimidating, courtesy of heavy geometry and seemingly endless scripting. It's best to zoom in on specific examples to learn from, at least at the start, rather than trying to take it all in at once.



**2** Indoor areas give you the least control over the look and feel of your areas – something that even the main campaign suffers from. It's like LEGO, assembling corridors from set pieces. Only with more traps and torture devices.



**3** Everything comes down to the scripting. This is the Conversation Editor, which controls everything from logic checks to animation, to marking the player's progress. You can even see the devs' notes and directions to voice actors.

**Needs** 2.4GHz CPU, 512MB RAM, 512MB 3D card

**Wants** 3Ghz CPU, 1GB RAM, 512MB 3D card

**Net gaming** 1-varied

**Discuss** [pcformat.co.uk/mag/nwn2](http://pcformat.co.uk/mag/nwn2)

**91%** **PCF says...** "Worth your time if you're a single player, tabletop gamer, or a creator of worlds"





New heroine Anna-Maria will make you feel all funny inside.



"Good morning. Do you have any salami?"  
"Absolutely not, sir. Get out of my shop."



Virgil – friend, business partner, hacks PDAs with post-it notes; legend.



Wait a minute, I don't think this is the Louvre at all. Aren't you Sophie Neveu?"

## POINT, CLICK, CHEER

# Broken Sword The Angel of Death



Try to forget that the last game to feature 'The Angel of' in its title was that abysmal Tomb Raider one

Price £30 Publisher THQ Developer Revolution Software Web [www.revolution.co.uk](http://www.revolution.co.uk)

**Y**ou slam awake suddenly, that telltale post-boozie dryness in your mouth and scraping sensation at the back of your brain. There's someone in the bed with you. Oh no. It's your ex. The ex. What have you done?

Didn't you swear you'd never do this again, that you'd been hurt too many times? She smiles up at you sleepily, then rests her head on your chest. Man! She's beautiful. How could you have forgotten that? You hesitate for a second, then put your arm around her. It. Feels. So. Right. Turns out love never

### ON THE DVD

>> Screenshot gallery



### BUY THIS IF YOU LIKE...

- >> *Fahrenheit*  
Atari
- >> *The Longest Journey*  
Funcom
- >> *Indiana Jones and the Fate of Atlantis*  
Lucasarts

dies – but unless nurtured it'll shrivel into a tiny, bitter, abandoned thing.

While *Broken Sword 4* doesn't recapture that first flush of love and lust that those glorious mid-1990s days of point-and-click gaming inspired, it's more than enough to make that tryst you swore you'd never repeat worthwhile. After a decade of mathematical *Mysts* and undermined-by-insanity *Fahrenheits*, *BS4* brings character, plot and humour back to the near-abandoned party.

### MANNY ABOUT THE HOUSE

It's point-and-click through and through, not filled with the clumsy action shoehorned into the last *Broken Sword*. Just as well, as hero George Stobbart handles like something out of *Robot Wars*. The sedate pace of the game means this isn't a problem.

The puzzles are rooted in sense rather than surreality, and tricky enough to inspire bragging once you solve them. Occasionally, they grate – maybe because they involve finding an almost invisible interactive object on a wall, maybe because their solutions are too rigid. For instance, you can open a window only when a guard is engrossed

in performing the Elvis dance he does, but open the door down the corridor and he'll interrupt his jig to threaten you.

There's a sense that the meticulous work that's gone into making the storyline and characters convincing (cocky, lovelorn George is a world away from the bland cipher he was in the last game) has resulted in the neglect of some rudiments. If George's head swivelled to look at anything interactive, there'd be less rubbing of the cursor over every inch of screen. If characters weren't rooted to the spot, the world would feel more real. If there was a button to skip dialogue, the rising fury when slightly stuck would be quelled. Even so, it's just enough like being in love again.

**Alec Meer**

## OMG t3h haxx0rs

Someone doesn't understand hacking...



A silly and ill-fitting minigame in *Broken Sword 4* has you using your PC to hack into servers. Apparently hacking involves remotely flying routers around the globe and placing mirrors to make data streams flow in different directions. Someone, please hack this out of the game.

**Needs** 1.4GHz CPU 256MB RAM, 128MB 3D card with shaders

**Wants** 2GHz CPU 512MB RAM, 256MB 3D card

**Net gaming** None

**Discuss** [pcformat.co.uk/mag/brokensword4](http://pcformat.co.uk/mag/brokensword4)

**80%** PCF says... "Needs some polish, but otherwise, this is a true return to form."



**"Get someone against a wall and you can hack away"**



This guy could end up your friend or foe. We just steered well clear of him, and you should probably do the same, too.



Trolls are not responsible for causing school bully flashbacks.

**ANTI-HERO**

# Gothic 3

Germany's much-loved miserable RPG is here again. Sorry guys, but we still just don't get it...

**Price** £35 **Publisher** Deep Silver **Developer** Piranha Bytes **Web** [www.gothic3.com](http://www.gothic3.com)

**L**ike life, *Gothic 3* is a struggle. You've got to make a name for yourself in a land where humans rebel against their orc overlords. You have no friends and everything your nameless hero accumulated during the last *Gothic* game is nicked by confusingly expeditious pirates. Your skills are gone too, but there's no explanation for that so it's best to ignore it. This is good, heroic struggling. The only problem is there's an awful lot more of it involved.

It feels like Piranha Bytes have got ahead of themselves. You can work for anybody, fight anybody, bust out a few amnesia spells and snuggle up to your ex-enemies, even change the ownership of whole towns, and the game will go on. It's not a small world either – pocked with caves, camps, ruins and the like to stumble across. Fun? Sure. Impressive? Almost. On paper it's got the makings of an enjoyable RPG, but at a base level things are unfinished.

There's a lot of dialogue, all spoken, but the translation's a patchy piece of work and the conversational camera has difficulty getting anyone sitting down in shot. Your quest log is just entire transcripts of talks, so you end up

picking through chatter you don't want to be reminded of while searching for clues as to what to do next.

## GOTHIC ARCHITECTURE

The action's all about exploiting endless combos and shoddy AI. Get someone against a wall or above you on a slope and you can frequently hack away at their recoiling body forever, and during long-range combat you'll find safe spots where the enemy won't return fire.

The combat's quite strange in general for a game that's all about dirty realism.

## Ethic minority

No good, no bad, just a whole lotta ugly



## ON THE DVD

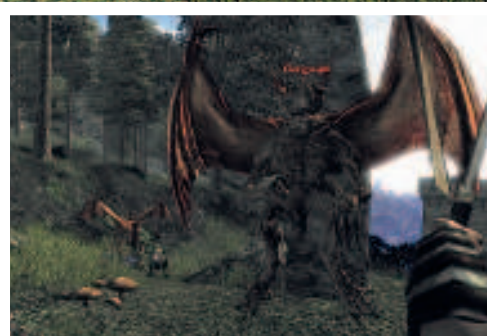
>> Screenshot gallery



## BUY THIS IF YOU LIKE...

- >> *Oblivion*  
Bethesda Softworks
- >> *Fable*  
Lionhead
- >> *Gothic 2*  
Piranha Bytes

Budding goodie-goodies should think before joining in with the human rebels and their unorthodox tactics. The orcs won fair and square and can make gracious friends once you get their respect, and the Hashashin are sophisticated. It's always nice when games make you think.



You fight a mix of *Gothic*-specific beasts and traditional ones. It's a bit like their creativity only stretches so far.

Health is recovered by eating, which can be done via the inventory menu and enemies will politely wait for you. As long as you've got grub in your pocket you're immortal, which is extra-useful because, even well into the game, slaughtering the array of oddly bouncy farmyard animals is the fastest way to get experience.

The engine's just as untidy – lengthy load and save times, nowhere near as pretty as it should be, and expect the odd memory leak or crash.

There's a market for the game this was trying to be. Big, gritty and morally grey, catching the people that found *Oblivion* too clichéd. Still, this is a series that's too popular in Germany for it to end now. Maybe *Gothic 4* will get things right. Just maybe.

**Quintin Smith**

**Needs** 2GHz CPU, 512MB RAM, 128MB 3D card

**Wants** 2.5GHz CPU, 1GB RAM, 256MB 3D card

**Net gaming** None

**Discuss** [pcformat.co.uk/mag/gothic](http://pcformat.co.uk/mag/gothic)

**65%** **PCF says...** "Ditch your standards and enjoy shaping a mediocre world to your will."



## SPORTS SPECIAL



The minimalist display is retained, but with loads more options.



Having a proper portrait in the Manager Profile pleases us – but then, we are terribly vain.

## STAT HAPPY

# Football Manager 2007

Take charge of one of world football's great clubs, or turn a lowly bunch of chubby pub regulars into world-beating geniuses – the choice is yours

Price £30 Publisher SEGA Developer Sports Interactive Web [www.sigames.com](http://www.sigames.com)

**P**CFormat has been hamstrung by its *FM* addiction for many a year now, yet we've struggled to rationalise it, until the last iteration of *Football Manager*. That game produced tension, raw emotion and immersed the player in a world we'd otherwise never experience: it's an RPG.

We remember sitting on the edge of our seats for the last 15 minutes of Bolton Wanderers' first Champions' League victory, desperately hanging on against a superior Bayern Munich. *FM2007* immerses you even further into

## BUY THIS IF YOU LIKE...

- >> **Football Manager 2006**  
SEGA
- >> **Championship Manager 2006**  
Eidos
- >> **LMA Manager 2006**  
Codemasters



this cutthroat business, shoe-horning more elements into the mix.

Player interaction has been improved too, with the ability to talk to any player within the game world. This works in a variety of ways: sometimes, you can unsettle an opposing player coming up

**"Immerses you in the cutthroat business of management"**

to a big game, or to pave the way for a transfer. Obviously not tapping up though, that would be a bad thing.

## WHO'D BE A JOURNO?

There's also more media interaction too. Hacks knock on your office door demanding interviews, or what you think your chances are in the next match. Be careful not to be too damning as you might find yourself on the business end of a touchline ban. And that can seriously put a dampener on match day.

SI has improved the game's immersive qualities, by completely

rewriting the method for creating new players. Codenamed 'Fred', the system replaces the previous model, where old players would simply return as younger versions of themselves.

Now every team has a realistically generated youth side that eventually feeds through to first teams across the leagues. Coupled with this is the feeder club system, where relationships with other teams can allow you to farm out talented youngsters for first team experience, or harvest wunderkinds from other countries. There are a host of other new features, such as the effective new scouting module, but you'll find those for yourself when you buy it.

If you've got any interest in the finer points of footie, you should seek this out, it's the most in-depth, yet accessible management sim around. **Dave James**

**Needs** 800MHz CPU, 128MB RAM

**Wants** 2GHz CPU, 512MB RAM

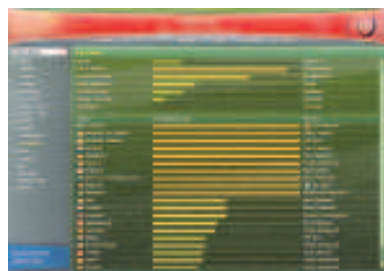
**Net gaming** LAN

**Discuss** [pcformat.co.uk/mag/fm2007](http://pcformat.co.uk/mag/fm2007)

**90%** PCF says... "Engaging and absorbing. Prepare to lose yourself again."

## Last boy scout

On the lookout for firm young flesh



The scouting module lists prospective bargains and upcoming opponents. The knowledge of your scouting team helps you unearth great young players that other teams may miss out on. Getting your team's overall rating up to the mythical 100% is also a mini-game in itself.





Michael Owen rifles one off the post in dramatically snowbound football pitches.



Balton Wonderers, Bolt FC, even Bowiten would've been better than Middlebrook.

## CARLOS KICKABALL

# Pro Evolution Soccer 6

If only Charles Darwin had written a book about this kind of evolution instead...

Price £30 Publisher Konami Developer Seabass Web [www.konami.com](http://www.konami.com)

**Y**our first reaction upon loading up Seabass' latest footballing masterpiece might be one of revulsion, thanks to its wilfully consoley frontend. The idea of style over substance hasn't filtered down to the fellows at PES6. It's using the same menu screens and loading splashes it did when it was a PlayStation game.

Why is that? Because higher resolution is harder on the eyes when the game's played on a regular TV. Why should that matter to us PC owners with beautiful monitors capable of dazzling screen quality? Because this is a lazy console port. It's about time the PES team stopped resting on its laurels and started sharpening up the frontend.

### BLIND REFS

Still, when the actual football's this good, you can guarantee the game's going to fly off the shelves, despite the hideously low-res menu screens. As with most PES updates, it's a question of evolution – there's nothing startlingly revolutionary here, just a lot of physics tweaking and extra animations.

It's nowhere near as finicky as its predecessor – the referees don't

constantly halt the game, and some matches can get rather agricultural a little too quickly. It's much easier to run with the ball now, but consequently tackling has become an art form. The improved ball and player physics means

**"It's easier to ping in those long-range screamers"**

### BUY THIS IF YOU LIKE...

- >> Pro Evolution Soccer 5  
Konami
- >> FIFA 07  
EA Sports
- >> Football Manager 2007  
Sports Interactive



## International star

Choose your own adventure



As well as the traditional Master League mode, there's now the International Challenge. Here, you take a national side through its qualifying group, all the way to the World Cup. But the best part of this new option is that you get to pick your own squad before every match.

that the ball will bobble loose more often than not, while pace has also been given higher precedence.

The improvements don't stop there – the shooting mechanics have been updated so that it's easier to ping in those long-range screamers. All this combines to create a more exciting footballing experience, but Konami has retained the air of difficulty and graft that's unique to PES.

Is it better than FIFA? As an accurate arcade game, yes, but its rival has caught up recently. If you want slick, beautifully presented footie, controlling your local first division side, stick with FIFA, but if you're after a visceral, accurately modelled game then look no further than PES6.

**Dave James**

**Needs** 800MHz CPU, 256MB RAM, DX9c 3D card

**Wants** 2GHz CPU, 512MB RAM, DX9c 3D card

**Net gaming** LAN/internet 2-8 players

**Discuss** [pcformat.co.uk/mag/pes6](http://pcformat.co.uk/mag/pes6)

**86%** PCF says... "Still tough, still challenging, but there's more entertainment here than ever."



I'M TIGER WOODS

# Tiger Woods PGA Tour 07

It's golf, Jim, and exactly as we know it

Price £30 Publisher EA Sports Developer In-house Web [www.easports.com/tigerwoods07](http://www.easports.com/tigerwoods07)

**P**CFormat is not usually prone to self-indulgent flights of fancy. Not for us the smug 'capsule' reviews favoured by other mags, oh no. If PCF was home to such things, though, we could haughtily dismiss this game in one word, of course. Until a word is invented



The opportunity to stroll pristine fairways in a ridiculous stovepipe hat remains.

## ON THE DVD

>> Screenshot gallery



## BUY THIS IF YOU LIKE...

- >> **Tiger Woods 06**  
EA Sports
- >> **Real World Golf**  
In2Games
- >> **Pro Stroke Golf**  
World Tour 2007  
Oxygen

**"Tiger Woods 07's depth of field effect is laughable"**

that means 'we really enjoyed playing this game, but were disappointed at the franchise's lack of progress', though, you'll have to suffer our extended ramblings for a few more paragraphs.

## DEPTH CHARGE

Now for the good news: *Tiger Woods PGA Tour 07*'s control system is still intuitive and has been arranged for the PC's mouse rather than porting over the joypad controls from the Xbox version.

The last-gen graphics, though, are a real letdown. Back in the Nineties, we were given to believe that we'd have photo-realistic golf games by now. And hoverboards, but that's not the point.

*Tiger Woods 07* couldn't be further from that. The backgrounds are blocky and the depth of field effect is



No, you're wrong – that's not a generous application of Vaseline, it's 'depth of field.'

laughable. *Call of Juarez* it ain't. Although a Winchester rifle in your golf buggy might be welcome, given the amount of fauna flouncing across the fairways...

This is only worth a look if you're after a golf game and aren't interested in *Real World Golf*, or if you're devoted to the *Tiger Woods* franchise and are desperate for more courses, more players and little else by way of innovation. Either way, there are better golf games out there.

**Dave James**

**Needs** 800MHz CPU, 256MB RAM, 64MB 3D card

**Wants** 1.4GHz CPU, 512MB RAM, 128MB 3D card

**Net gaming** 2-8 players via LAN, 2-4 players online

**72%**

**PCF says...** "It's a good golf game, admittedly, but it's also unnecessarily ugly."



## NBA Live 07

Price £30 Publisher EA Sports Web [www.easports.com/nbalive07](http://www.easports.com/nbalive07)

Everyone in the world of the NBA seems to be very excitable: the commentators spew reams of stats, the scores are ridiculously high and the action's fast and frenetic. *NBA Live 07* captures that exuberance brilliantly, but as a videogame, it's utterly impenetrable to anyone without a decent prior knowledge of the sport.

That's all fairly understandable, but if you work your way through the different training options, find out how to stop the opposition ghosting

past your defence and can manfully ignore the blocky, lo-res menu screens, there's a well-crafted basketball game here for the fans.

**Needs** 1.3GHz CPU, 256MB RAM, DX9c 3D card

**Wants** 2GHz CPU, 512MB RAM, DX9c 3D card

**Net gaming** LAN/Internet, 2-8 players

**71%**

**PCF says...** "Passable, but it's very niche..."



## Madden 07

Price £30 Publisher EA Sports Web [www.easports.com/madden07](http://www.easports.com/madden07)

high score  
P-Format

For the purposes of this review, Mike and Dave went head-to-head in the office. Mike's played previous iterations and Dave 'kinda knows the rules', but both were still confused as Madden himself wrapped the match up.

That's how you'll feel if you jump into playing the game without previous *Madden* experience. We were prepared to discard it as over-complicated, over-hyped and over here, until we discovered the drill modes. They don't just tell you how to play – the intelligent practices help you to feel like you actually know what you're doing.

**Needs** 1GHz CPU, 256MB RAM, 64MB 3D card

**Wants** 1.4GHz CPU, 512MB RAM, 128MB 3D card

**Net gaming** LAN/Internet, 2-8 players

**80%**

**PCF says...** "A brilliant introduction if you haven't played before."



## NHL 07

Price £30 Publisher EA Sports Web [www.easports.com/nhl07](http://www.easports.com/nhl07)

Ice hockey is one of the most accessible sports in the US, its basic premise to get a small object into a net while injuring your fellow man is easily understood by all. *NHL 07* has all the bone-crunching excitement you could ask for in a hockey game, but then so did *NHL 06*.

It's essentially the same game as '06, but with a few minor modifications and slightly different controls. The new controls take a little getting used to, as there are none of the *Madden*-style drills to hone your skills, so if you are new to hockey you'll find it a slog.

**Needs** 1GHz CPU, 256MB RAM, 64MB DX9c card

**Wants** 2GHz CPU, 512MB RAM, 128MB DX9c card

**Net gaming** LAN/Internet, 2-8 players

**76%**

**PCF says...** "The goals are satisfying, but there's nothing new."



**"Getting married in The Guild 2 requires all the skill of feeding a Tamagotchi"**



City guards will loiter around, looking for trouble. They'll find it, too.

## ROLE-PLAYING GAME

# The Guild 2

Pick a career, destroy your competition, find yourself a spouse and build your dynasty – it's almost like a daytime soap

**Price** £35 **Publisher** JoWood Productions **Developer** 4Head Studios **Web** [www.theguild2.com](http://www.theguild2.com)

**T**he Guild 2 is a strategic RPG set in the Middle Ages, focused on familial growth across towns and cities. In building your dynasty, you're able to open businesses, marry into rich families and beg, borrow, cheat or steal your way to the top.

Your clan will only flourish if you succeed in business, and political life, but each is as monotonous as the last. Business is the most obvious starting point to generational domination, and it's where you'll begin after creating your character and assigning experience

## Wedded bliss

Be my wife. Now!



All that clicking demands a complicated interface, but there's thankfully some robust tutorials to guide you through the important bits, from running a business, hiring employees, fighting enemies, running for office and even how to do the do with your new lady friend.

### ON THE DVD

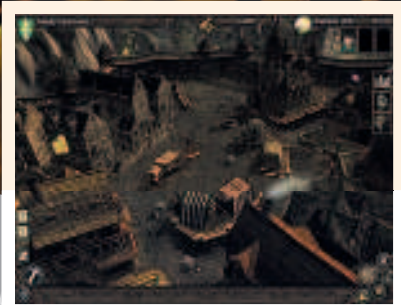
>> Screenshot gallery

### BUY THIS IF YOU LIKE...

- >> **Republic: The Revolution**  
Eidos Interactive
- >> **The Settlers**  
Blue Byte Software
- >> **The Sims 2**  
EA



Once you own a few businesses, feel free to stroll around them, bossing minions about.



Capitalism abounds in the marketplace.

points. But while there are a large number of professions to choose from, including farming, smithery and running a tavern, in practice each involves doing almost exactly the same thing. You buy raw materials at the marketplace, make something with them, and then you sell it. It's repetitive to say the least.

Getting married involves all the skill of feeding a Tamagotchi. While other games strive for subtle shades of characterisation, wooing your desired bride-to-be and potential mother of your heirs, is simply a process of cold-hearted button-pressing. It's a depressingly cynical business.

### POWER TO THE PEOPLE

Climbing the ranks of political office gives you more abilities (setting taxes and callously embezzling public money, for example) but is as easy as bribing everyone who gets in your way, and almost every politician is easily bought. While bribery and murder sound like exciting methods of progression, in truth they're barely interactive. Both can be achieved with a single click of a button.

Thievery provides an alternative career, and offers precious respite from

the entirely predictable grind of trading in the other, slightly more legal professions. Enemies who spot you performing illicit acts can gather evidence and turn you over to authorities, though (for possible execution, if the crime warrants it), or can blackmail you with the information, and the ducking and diving you'll need to perfect to avoid capture is refreshing.

When taken as a whole, it's tempting to commend *The Guild 2* for its obvious complexity and obvious attempts to bring new life to the genre. It's quite impressive visually, too: seasons change, and the game world looks great throughout. But mere baubles aside, the game is seriously lacking in many important respects, and considering the competition, we'd find it hard to recommend it.

**Graham Smith**

**Needs** 1.8GHz CPU, 512MB RAM, DirectX9 3D card

**Wants** 2.8GHz CPU, 1GB RAM, DirectX9 3D card with 2.0 shader support

**Net gaming** up to 8 players online/LAN

**59%**

**PCF says...** "Ambitious and complex throughout, but lacking the fun factor."

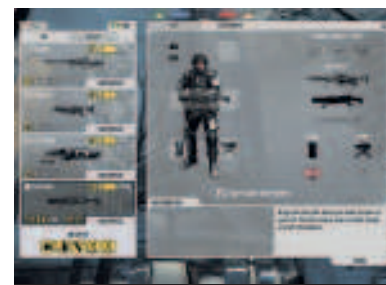




A spot of good, old-fashioned, cold-hearted vandalism speeds up the demise of a Titan.



The Battle Walker is a tank that's able to step over some small obstacles. That's all.



Unlocked weapons and equipment are more vital to a good team than ever before.

## POST-MODERN COMBAT

# Battlefield 2142

If we don't all own giant pilottable robots with built-in rocket launchers in 136 years' time, we're suing EA

Price £35 Publisher EA Developer DICE Web [www.battlefield.ea.com](http://www.battlefield.ea.com)

**H**ow to tell you're living in the near future: a rough guide. Are you in a zone of almost perpetual winter or barren desert? Are the buildings in it towering glass and metal skyscrapers? Are nearby vehicles curiously angular and minimalist? Does every object release crackling arcs of blue electro-magnetism when damaged? Is there an ill-defined conflict between Western and Eastern continents? If you answered 'yes' to at least three of these questions, then congratulations! You're definitely living in the near future. Or

### ON THE DVD

>> Screenshot Gallery

### BUY THIS IF YOU LIKE...

- >> PlanetSide  
Ubisoft
- >> Unreal Tournament 2004  
Atari
- >> Robots  
Absolutely wherever you can find them



## An admission

There may be trouble ahead



The game code we played was given to us as reviewable but didn't feel finished. There were crashes, a failure to load ground textures and a lockup if we tried to enable Creative X-Fi support. The problems weren't enough for a score docking, but expect a patch after release if they persist.

rather, the future as it's been repeatedly defined by videogames, anyway.

This expansion pack masquerading as a sequel to the wildly, and deservedly, successful multiplayer team shooter *Battlefield 2*, isn't big on imagination. It borrows bits of that near-future style we've seen so often and cobbles it

**"These goliaths are an ominous sight, looming over the map, taking a laser-based swipe if you fly too close"**

together into a patois that's instantly recognisable as being born of its prequel, but with enough textbook sci-fi to snare the crowd who roll their eyes whenever military shooters are mentioned. It's plenty of fun, but we have a stunned admiration for how developer DICE has managed to make the inclusion of giant robots have zero effect on how the game feels or plays.

### FUTURE EMP-ERFECT

We snidely called it an expansion pack a paragraph ago. That's not fair, in fact, it's more like a mod – a big, polished mod, but a mod nonetheless. It's exactly

the same formula as used when *Battlefield Vietnam* was billed as a sequel to the first in the series, 1942, but turned out to be a bunch of reskins, new landscapes, a killer soundtrack and mangled netcode. *Battlefield 2142* is *Battlefield 2*'s *Vietnam* but without the awesome music or network problems. Yes, there are mechs and EMP gadgetry, but it's unmistakably *Battlefield 2* with futuristic knobs on, and if cynicism rings true, made quickly to prevent its forthcoming rival, *Quake Wars*, from using sci-fi warfare to steal *Battlefield*'s team shooter crown.

That's not to say that 2142 is a bad game – it's just that it's not of much value if you already own *Battlefield 2*. The obvious pilottable robots and

hovertanks aside, the more interesting new stuff is only available through unlocks. These, for the uninitiated, are weapons and gadgets you're granted access to by winning points on supporting servers. And gosh, there's some goodies to be had – cloaking devices, floating attack drones that follow you around, automatic sentry guns, projectile shields, adrenaline implants... Of course, you'll be denied access to most of them until you've played and won a million straight games, but at least many of them are a boon to the entire squad rather than to just a single soldier. And because they're that





In the future, almost all vegetation is dead so camo is now only black and white.



By the 22nd Century, everything will have some sort of blue light shining around it.



There's obviously nothing aesthetically pleasing, like curves awaiting vehicle design in the next century.

much more interesting, diverse and plentiful than the unlocks in *BF2* though, there's a stronger impetus to play more and win more to speed along your levelling up.

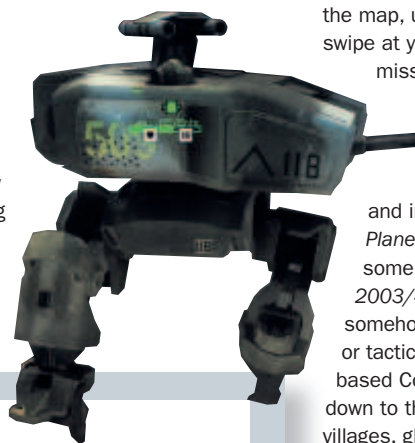
Another subtle improvement is the dishing out of more promotion points for following and giving successful orders. Hopefully, this will help dissuade the legions of selfish morons from playing for themselves and not getting into squads or following Commanders' orders. Free-for-alls in *BF2* are always less fun than playing cooperatively with a group of friends or strangers, and it's heartening that DICE is trying harder to encourage this. We're also pleased that aircraft have been toned down a great

deal, preventing the total map domination by adept pilots that *BF2* is often crippled by.

## SHIPPING NEWS

Such changes feel like something better suited to a patch than a whole new game. In fact, to a certain point, the toning down of vehicle warfare in favour of more mid- and short-range infantry combat was already introduced in *BF2*'s fine expansion, *Special Forces*, but perhaps in a new game it has a better chance of luring back players disheartened by being blown up every time they spawned in *BF2*. 2142's boldest claim to being its own entity is the new

There's only one kind of pilotable robot.



Titan mode. Here, the two sides aren't warring over flag points, but gigantic missile launchers which, when captured, open fire on the opponent's Titan airbase. These space goliaths are an ominous sight, looming in silhouette over the map, usually taking a laser-based swipe at you if you fly too close. Enough missiles bring down its shields,

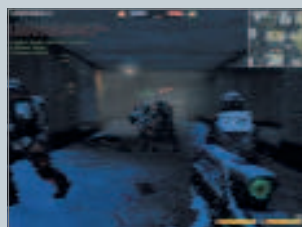
and you can either slowly rip apart its hull or board it and destroy its innards until it explodes. It's a fun

and interesting hybrid of *PlanetSide*'s base invasions and some of *Unreal Tournament 2003/4*'s Assault maps, but somehow it doesn't feel as satisfying or tactical as the *BF*-standard flag-based Conquest mode. Part of this is down to the map design – frost-covered villages, gleaming metropolises and scorched deserts manage to look oddly similar, thanks to too many repeated elements and very little visual creativity.

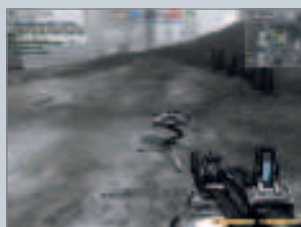
Such ordinariness only reinforces the nagging sense that this is the same game with bits bolted on. That's always the case with *Battlefield* games, but this time it's too little, too soon. **Alec Meer**

## Being a dick

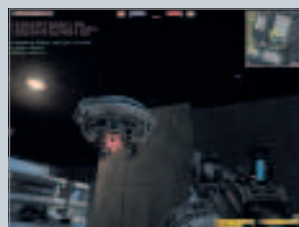
Fun new ways to infuriate your team mates



**1** EMP weapons screw up enemies' helmet or vehicle HUD – in fact, anyone stood nearby will get wavy lines and messed up targeting boxes. Occasionally, it can mean you shoot friend rather than foe.



**2** The Support class gets an *Aliens*-esque remote sentry gun. Drop it facing a wall that an enemy's crouched behind and the hail of futile fire will be non-stop, preventing team mates walking that way.



**3** The ace top-level Squad Leader unlock is this hovering attack drone we've nicknamed FrisbeeDeathBot 3000. Annoy foes and colleagues alike by vacuuming up kills without firing a shot.

**Needs** 1.7GHz CPU 512MB RAM, 128MB 3D card with Shader 2.0 support

**Wants** 3GHz CPU, 1.5GB RAM, 256MB 3D card

**Net gaming** 2-64 players, Online/LAN

**Discuss** [pcformat.co.uk/mag/2142](http://pcformat.co.uk/mag/2142)

**78%** PCF says... "It's decent enough, but unessential for *Battlefield* veterans."





This is the world's worst whorehouse. There seem to be no women.



And in the absence of barbarian women, the citizens took sheep as wives.



Everything you see – it's all yours. Even the homes of your endearingly syphilitic peasants.

## STRATEGY SAVIOUR

# Caesar IV

Scratch a seven-year strategy itch thanks to the city-building sequel, which proves without a doubt that Rome really wasn't built in a day

**Price** £40 **Publisher** Vivendi **Developer** Tilted Mill Entertainment **Web** [www.caesariv.com](http://www.caesariv.com)

**P**ulse slightly raised, warm mug in one hand, snazzy new mouse in the other, we're in resource management heaven with *Caesar IV*. The long-awaited sequel to 1999's *Caesar III* is just as comforting as its forebears, inviting you to fashion a toga from old sheets and manage the economic toings and froings of Roman cities. Starting with patches of land, you must attract plebs, equites and patricians by building homes, amenities and businesses.

To begin with – and for several hours – you're learning the game. Discovering

controls, too, are a pain – jittering camera swirls, imprecise building placement and unresponsive mouse-clicks are annoying when you've got the vision of Nero.

### REST ON YOUR LAURELS?

Ironically for a game centred on the second most voracious empire in the world (after McDonald's), *Caesar IV* isn't excessively ambitious. There's no research element, as with *CivCity Rome*, no abundance of building types, and the game doesn't feel epic. That said,

### BUY THIS IF YOU LIKE...

- >> **CivCity: Rome**  
2K Games
- >> **Sim City 4**  
Publisher EA
- >> **Sid Meier's Railroads!**  
Publisher 2K Games

*Caesar* does benefit from keeping things simple. You feel empowered to effect immediate and far-reaching changes on your cities with your build choices.

At first, there seems to be plenty of time to lounge about quaffing vino, but economic disaster is never far away. Marauding enemies are one concern, but you can keep them out with walls and troops. Be warned, though: locals don't like being housed near to a building full of men with only a sponge on a stick to clean up. Angry gods and the demands of your capital will also keep you on your toes, with lightning strikes and requests for goods respectively. Fail to keep your citizens healthy and safe and you'll quickly be ostracised, staring blankly at your PC screen.

**Lee Hall**

**"Angry gods will keep you on your toes with lightning strikes"**

how to maintain the supply networks of grain could be the difference between your bust on display in the forum or going bust in the winter.

Pity, then, that *Caesar IV* is a little rough around the edges. Even when set to 'stunning', the graphics fail to breathe life into the basic environments. The

## Legionnaires' disease

Getting to grips with your ground troops



**Caesar isn't just about economic management. In a nod to the military might that held the Roman empire together, you can also use troops to defend your cities from would-be invaders. It's just a pity that the game is an extremely basic point, click and hope affair.**

**Needs** 1.6GHz CPU 512MB RAM, 64MB 3D card

**Wants** 2GHz CPU 512MB RAM, 128MB 3D card

**Net gaming** Compare scores and swap cities

**Discuss** [pcformat.co.uk/mag/caesariv](http://pcformat.co.uk/mag/caesariv)

**70%**

**PCF says...** "Not as complex, but more focused than *CivCity*. For resource geeks only."



**"Three men, a broken Kubelwagen and some string, versus the Russian army. Go!"**



Any vehicle can be pressed into service – although they don't always last long.

## REAL-TIME ROUT

# Faces of War

Talk to the hand, because the face don't understand

**Price** £30 **Publisher** Ubisoft **Developer** Best Way **Web** [www.facesofwargame.com](http://www.facesofwargame.com)

**L**et us transport you back to a time of endless suffering. A time of long, agonising battles on the ravaged streets of Old Europe. A time when hope was beginning to fade. Yes, 2004 was a year in which we would actively accepted a severe non-penetrative head injury than face another World War 2 RTS game. Then, *Soldiers: Heroes of World War 2* came along and made everything better.

The sequel comes from a different publisher and thus gets a new, stupider name, but is in the same mould. You're given an objective, some troops and left to get on with it, choosing your own tactics and harvesting kit as you go.

### WHAT A LOVELY WAR

The difference is that this time round, there's a lot more happening and a sense of proper war, with troops of both sides swarming all over the place, and running battles fought with a very neat group-control system and sharper AI. A single click deploys your units to cover, where they'll fight convincingly, using the 'gradually-wasting-your-bullets' style favoured by bad guys in cowboy films, and it's also easy to choose targets or weapons to point at them.

Unfortunately, they aren't bright enough to actually win, so you've got to take control to defeat your foes – and in these expansive battles, that's a pain. You've got to rush round the battlefield possessing people like a demon with ADD to hold back the enemy, which is stressful and not particularly rewarding.

Tellingly, it's much more fun on the smaller scale, either by design (three men, a broken Kubelwagen and some string versus the entire Russian army. Go!) or accident – when, in fact, it's more like the original. With the bigger battles, there's a sense that there's just too

**Allied forces**  
Orders is orders – fall in!



### ON THE DVD

>> Screenshot gallery

### BUY THIS IF YOU LIKE...

- >> *Soldiers: Heroes of World War 2* Codemasters
- >> *Commandos 2* Eidos
- >> *Cannon Fodder 2* Budget

The multiplayer is a highlight of the game, particularly the co-op mode – fighting with human players reduces the problem of trying to keep on top of units. The interface still isn't all that sharp – a problem it shares with the in-game options, which have somehow become fiddlier here.



FoW's battles are all set in the closing stage of World War 2. This charmingly soggy locale is Ardenne.



The more impressive moments are also the most frantic; both you and your PC will have trouble keeping up.

much happening for you to deal with – the maps feel crowded, your PC stammers trying to render all the explosions, and it's easy to be overwhelmed while you're trying to jolly your troops into using the right weapon.

There are quality issues, too: the generally rough-edged presentation that means even the heroes of Kursk have American accents, and some missions rely on very specific but easily missed triggers to proceed. It doesn't detract from the charm, but it means that this is only a partially successful update. The best moments are second-hand, while the new additions are more work without being more fun – and now *Company of Heroes* is upon us, the competition is much stronger.

**Jon Hicks**

**Needs** 2GHz CPU, 512MB RAM, 64MB DirectX9.0c 3D card

**Wants** 3GHz CPU, 1GB RAM, 128MB DirectX9.0c 3D card

**Net gaming** Online/LAN, 16-player, co-op, FFA, teamplay

**Discuss** [pcformat.co.uk/mag/facesofwar](http://pcformat.co.uk/mag/facesofwar)

**79%** **PCF says...** "Still a superior RTS, but it's not as impressive an update as we'd have liked."





## FLYING BY NUMBERS

# Wings Over Europe Cold War Gone Hot

Relive the glories of the Jet Age once again

Price £30 Publisher Empire Developer Destineer Web [www.thirdwire.com](http://www.thirdwire.com)

**W**e used to play an awful lot of *Lock On* here on PCF. In fact there was a time when multiplayer CAPs were flown over the Black Sea on an almost nightly basis. If it wasn't a BVR engagement you weren't doing your job properly. To get to the point, we became quite hardcore. It's with that in mind we approached the *Wings* series. As it turned out, it wasn't

## ON THE DVD

>> Screenshot gallery



## BUY THIS IF YOU LIKE...

>> LOMAC

Ubisoft

>> *Wings Over Vietnam*

Empire

>> *IL-2 Sturmovik*

Ubisoft

very good, which is relevant because *Wings Over Europe* is pretty much identical to the much improved, DX9-enhanced, *updated* version of *WOV*.

## FIRE WHEN READY

To put it bluntly, if you own a patched install of *Wings Over Vietnam*, there's very little reason to buy this, save some new aircraft and an extra theatre of war.

On its own merits though, *Wings Over Europe* is a fine introduction to the

genre. It makes all the essential combat sim elements accessible.

Stuff like speed, bearing and your target's altitude are all displayed in handy HUDs, but it also retains enough depth to qualify

as a sim, not an aerial shooter. That's *WOE*'s best and worst feature. It's great for beginners, and you can ramp up the

**"Retains enough depth to qualify as a sim, not an aerial shooter"**



Now then, which one of these thousands of levers turns on the blue smoke?

The detailed ground mapping lends a disarmingly realistic air to proceedings.

realism if you like, but eventually you run into a wall.

In terms of mechanics, realism, visual quality and campaign structure it's not as sophisticated as *LOMAC* or even *IL-2*, but it's a good place to start. The likes of *LOMAC* can be intimidating to rookies, so there's a clear place for the *Wings* series. It's like a Cessna going up against a F-15: *LOMAC* simply outclasses *Wings* in all respects. But you wouldn't train a new pilot in a Strike Eagle, would you?

James Carey

**Needs** 1.5GHz CPU, 1GB RAM, 128MB 3D card

**Wants** 2GHz CPU, 1GB RAM, 256MB 3D card

**Net gaming** LAN and internet modes. No in-game browser

**52%** PCF says... "A great flyer for beginners, but not enough new features for the hardcore fan."

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Rats: pigeons without wings.



When salad preparation goes really wrong.



Hypnotic bliss. Also the best desktop background grab in six months.

## THIS DOG'S LIFE

# Sam & Max Culture Shock

They're back. And they're, well, lacklustre

**Price** £4.50 **Publisher** Telltale **Developer** Telltale **Web** [www.telltalegames.com/samandmax](http://www.telltalegames.com/samandmax)

**J**ust over 10 years on, and one of the most popular point-and-click adventure games ever is back. Sort of. If you played LucasArts' original *Sam & Max: Hit The Road*, then you loved it. It was, while not quite deserving the nostalgic eulogies of perfection it often receives, extraordinarily funny and enormously fun. Trying to remake it, without the original team, was always going to be a problem.

The obstacles were huge to begin with. No one's going to forgive a failure to match the quality of the original, nor should they, and this is only made harder by its episodic nature. Telltale is intending to release episodes monthly, so they're designed to last about three hours. You can see why such a concept works well on a marketing whiteboard, but it's too short for our expectations.

However, the game's not poor. Despite some weak voice casting and a tone of trying too hard, there are funny jokes in here. The dog and rabbit banter misses more than it hits, but hits enough to not feel awkward. And thank goodness every scene is smothered in items to look at, with accompanying wry remarks. Even better, combining

inventory objects with clearly inappropriate scenery frequently elicits specific gags, making exploration and experimentation rewarding.

### LEFT CLICKING

Sadly, the decision to not offer different responses for left- and right-clicks can leave you feeling rather irrelevant. Simply left-clicking for every action is more like observing than playing. Give us the choice whether to look at something or pick it up, dammit.

This goes double for the puzzles, too. There's mostly no sequence to their

### ON THE DVD

- >> Screenshot gallery
- >> Playable demo



### BUY THIS IF YOU LIKE...

- >> **Sam & Max Hit the Road**  
LucasArts
- >> **Bone**  
Telltale
- >> **Ankh**  
BHV Software

solutions. Given that there are only five locations in the game, it makes all but one puzzle a matter of inevitability. They might be funny, but they aren't tricky. That one puzzle, by the way, involving a psychotherapist and some extended analysis, is really superb. It's such a shame it stands out so clearly.

*Culture Shock* is possibly the most successful 3D point-and-click to date, sensibly opting for one-camera views of wide scenes. The newly rounded characters look splendid in the bright, lively rooms. The foundations are in place but *Culture Shock* needs more effort and interaction. And, for the love of God, more puzzles. We haven't given up hope on the franchise just yet, but we're expecting a great deal more from episode two.

**John Walker**

## Exposition exposed

There should probably be a story in here



The story - what there is of it - is based on washed-up child celebrities, seemingly hypnotised by a mysterious assailant, and forced to promote self-help videos for a bushy-haired man. Perhaps there are more original ideas than hypnotising videos and celebs out there?

**Needs** 1.5GHz CPU, 256MB RAM, 32MB 3D card

**Wants** 2GHz CPU 512MB RAM, 128MB 3D card

**Net gaming** None

**Discuss** [pcformat.co.uk/mag/sammax](http://pcformat.co.uk/mag/sammax)

**73%** **PCF says...** "Inevitably anticlimactic. But there are a few smiles within."





Look! You can see for 16 kilometres! Sixteen! Phwoar etc.

POLITICAL COUP 'EM-UP

# Just Cause

Viva la revolution, baby! And when it comes, hairdressers will be first against the wall

Price £35 Publisher Eidos Developer Avalanche Web www.eidos.com

**B**efore you decide to change the world, make sure you look the part. Rico Rodriguez, whose role you play in *Just Cause*, wends his way through the game with the kind of mullet unseen since mincing Eighties numpties A-Ha topped the charts. A curious choice, and not one that most of us would comply with, but there you have it.

Still, it's hardly the focus of the game. That lies more in the domain of crazy action movie stunts, all performed in the name of affecting regime change in a mythical banana republic known as

## ON THE DVD

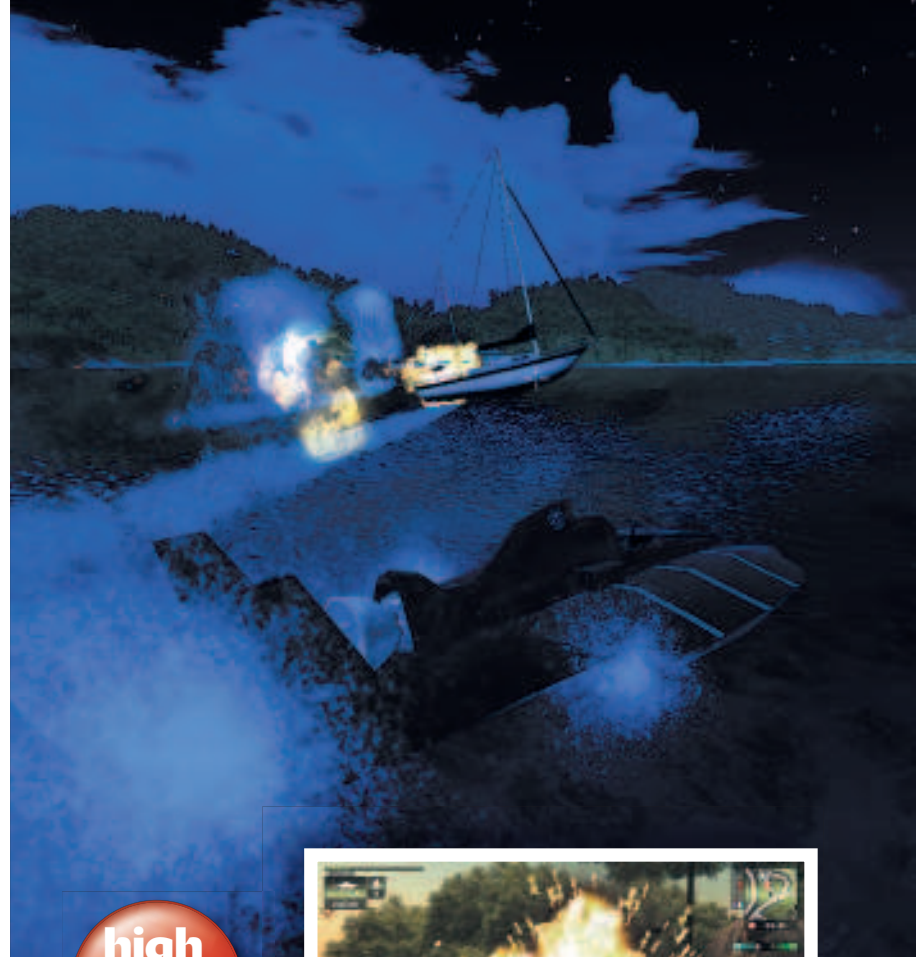
>> Screenshot gallery

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2K Games



Explosions in *Just Cause* are unnaturally satisfying.

San Esperito. The country is a political cauldron at boiling point: bent cops harass the populace, while guerrilla forces are poised to strike, requiring nothing more than a daring leader to show them the way. In case you hadn't guessed, that's you.

## CAUSE FOR ALARM

*Just Cause* establishes its credentials in the opening scene. The game begins half a mile above the sea, where you find yourself skydiving toward a coastal rendezvous with a local agent. And thus, the stage is set for some fairly stupendous stuntery, mixed with almost constant gunplay and a veritable Liverpool of vehicular heisting.

From the opening wicket, it's plain to see the game's a cut-and-shut console conversion. The mouse-and-WSAD controls are a tip of the hat towards seasoned PC gamers, but from the third-person viewpoint and instantaneous direction change to the simplistic vehicle

handling, you can't shake the feeling it's been designed with a joypad in mind. The character models feel light, the controls seem too crisp, and the physics engine oscillates between believable and laughable; it's like settling for a bag of crisps when your body's actually craving a beef and horseradish sandwich.

It's incredibly easy to forgive and forget however, as *Just Cause* is just plain fun, and within minutes of starting the game, you're

thrust into a really capital set of incidents, which teach you your

character's abilities while

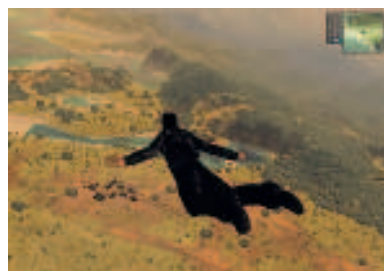
actually making you use them. In the time-honoured GTA style, you can yank motorists from vehicles and heist their rides, which helps you get around the islands in short order. And if you noticed the plural there, good work, eagle eyes. San Esperito is a cluster of land masses in the sea, and when the time comes for you to get moving, there are boats, planes and choppers for the taking.

All these toys... but they have a use. Not only to get you around the islands quicker – and it's a truly vast area – but



## The world, Chico...

You won't be short of space, that's for sure



The first time you take to the skies is an epiphany. It's not that you can go anywhere without adhering to terrain, but because the sky just goes up and up. As you rise through the ether, the world dwindles below you until it's wreathed in clouds. It's a beautiful thing.





also because around every corner, there's a mission waiting to happen. Bring up your map, and you'll find it festooned with icons, most of which are missions. The majority of these are faction missions, which raise your standing towards one guerilla group or other, and consist of liberating villages from military control, or performing lesser tasks, such as taking out specific characters or couriering drugs around the islands. And while these have tangible benefits – ie. to raise your standing with a specific faction – they soon become painfully repetitive, and you find yourself doing the same mission over and over again, with location as the only difference.

### DIE, CAPITALIST PEEG

Moreover, once you've figured out a specific vehicle-heisting technique, life in San Esperito suddenly becomes easy. Rico has a grapple hook, which can be used to grip vehicles; once it's attached, you can open your parachute, and parasend towards your target, be it a car, motorbike or chopper, and leap into the driving seat. And choppers are where it's at – the military varieties, which buzz overhead with tempting frequency, are the business. Heist one of these and you have endless rockets and minigun ammo to play with, which makes non-critical missions so easy, they lose all entertainment value.

Story missions are another matter altogether. You rarely get a choice of vehicles, and the plot-evolving activities you engage in are both challenging and unique. Here's where the progressive

## Hi, jack. Can I steal your ride?

It's silly; it's stupidly unrealistic, but it's fun. Here's how it works...



**1** Aim your trusty grapple hook at an enemy vehicle of your choice, and let rip. The hook will bite into the chassis of any vehicle – even a humble motorbike.



**2** As soon as the line starts to pay out, you can hit your 'chute button, and two things happen: the line goes taut, and you get pulled up into the sky. Heh.



**3** Hold down the [Shift] key, and you'll reel in your line. As you get close to your target vehicle, hit [E]. *Et voila* – you'll leap into the driver's seat.

interest really lies, and if you've a mind to, you can plough through them and finish the game quicker than you should.

But half the game's entertainment lies in plodding around the various islands, doing your own thing. Snag a chopper, rain down fiery death down upon the capitalist peegees engaged in a pitched battle; fly up to 20,000 feet, skydive out, land on a different island, and take it from there. The freeform world is a very attractive one, and you can lose a worrying number of hours just farting about in planes, trains and automobiles. As an example, there's a joyful,

**“There are boats, planes and even helicopters for the taking”**

unrepentantly geeky level of detail in the game's terrain mapping.

JC isn't perfect. There are some stolid, on-rails bits, the missions get repetitive, and did we mention the physics is crap? But there's abundant pleasure to be found, and at £35, you're getting your Peso's worth. **AI Bickham**

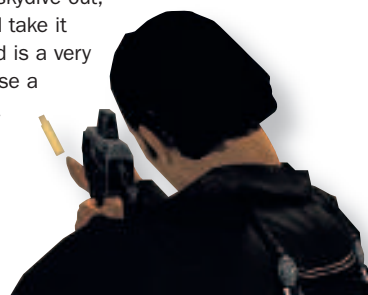
**Needs** 1.4MHz CPU, 512MB RAM, 64MB 3D card

**Wants** 2.8GHz CPU 1GB RAM, 256MB 3D card

**Net gaming** None

**Discuss** [pcformat.co.uk/mag/justcause](http://pcformat.co.uk/mag/justcause)

**82%** **PCF says...** “GTA for the jilted generation, *Just Cause* is worth it for the mullets alone.”





LAZY DAYS

# Made Man

Lukewarm shooter makes a ripple

Price £25 Publisher Mastertronic

Web [www.silverback-studios.com/mademan\\_intro.htm](http://www.silverback-studios.com/mademan_intro.htm)

**T**he problem is that shooting works so well in PC gaming – the timeless test of quickly drawing a bead, the immediate feedback as you pull the trigger. If gaming were better suited to, say, garden-tending then we might have less of a hard time with critics and we wouldn't have to give lazy games like *Made Man* half-decent marks. The plot is

comprised of mafioso Joey talking about his career, with his anecdotes making up the levels. They provide non-stop, easygoing third-person action and, since the game's a PS2 port, the precision of the mouse makes things easy. It never gives you a chance to want to stop playing, instead quietly stealing half-hours and giving nothing back. Joey's cool narrative

as you play is fun, assuming you can hear it over the gunfire.



Joey's flashbacks play like New Jersey with a sample of The Doors.

**Needs** 1.5GHz CPU, 256MB RAM, 64MB 3D card

**Wants** 2GHz CPU, 512MB RAM, 128MB 3D card

**Net gaming** None

**51%** **PCF says...** "There are a million and one better shooters out there."

TRACK-TASTIC

# Racer

Indie driving sim takes on GTR

Price Free Publisher Dolphinity Web [www.racer.nl](http://www.racer.nl)

**W**hile it's unlikely to take on the might of SimBin's weighty racing epic, *Racer's* a sterling effort by one Ruud van Gaal to create a driving simulation from the ground up. On the initial install, content is sparse (just a Lambo and a simple track to whizz around), but with a small-yet-keen community circling [www.iroker.com](http://www.iroker.com), there are various add-on tracks and cars for the

taking. Pretty soon we were wrestling the back-end of a Corvette C6 around some rural Polish roads and having a great time while we're at it.

There's some rudimentary netcode in place, meaning we're able to battle our way around the included circuit, but this is definitely an area of the game that needs work if *Racer* is to take off properly. Still, converting reams of incomprehensible maths into a more than driveable sim game is an impressive feat, and we're suitably impressed.



Super cars plus Polish roads. Great.

**Needs** 500MHz CPU, 256MB RAM

**Wants** 1GHz CPU, 512MB RAM

**Net gaming** None

**71%** **PCF says...** "Needs more work, but needs your support more."

# Also out

By Quintin Smith  
GAMING ROUND-UP



## Cake Mania

Price \$20 Developer Majesco

Web [www.majescoentertainment.com](http://www.majescoentertainment.com)

Soon coming to Nintendo DS, *Cake Mania* could be the loveliest game ever. You control the enthusiastic Jill as she works at her grandparents' cake shop. It's intuitive stuff – click a customer to hand them a menu or cake, click a machine to use it – but, like so many Flash games, it starts simply then complicates stuff to ridiculousness. The darkest thing around is the language that'll be coming out of your mouth when you click on red icing when you wanted pink. Try to forget you're playing a game aimed at suburban housewives.

**Needs** 400MHz CPU, 128MB RAM

**Wants** 700MHz CPU, 128MB RAM

**Net gaming** None

**77%** **PCF says...** "A Flash game that's as addictive as the best."



## Dumbow & Cool

Price \$5 Publisher Drewsgames

Web [www.drewsgames.com](http://www.drewsgames.com)

Provided you can find someone who's okay playing a girl called Dumbow who goes around freeing Schmumps, you could have a good slice of co-op here. This 3D platformer requires snorkel-clad Dumbow and rollerskating Cool to work together, bouncing on each others' heads to reach higher areas and standing on buttons to extend platforms. It's a bit 90s, but that doesn't make beating a taxing level any less of a bonding experience. Scrape some of the more dubious stains off your keyboard and go and find a partner.

**Needs** 900MHz CPU, 16MB 3D card

**Wants** 1GHz CPU, 16MB 3D card

**Net gaming** None

**64%** **PCF says...** "Fiddly platforming that's bearable with a friend."



## Invadazoid

Price \$20 Developer Bantam City Games

Web [www.bantamcity.com](http://www.bantamcity.com)

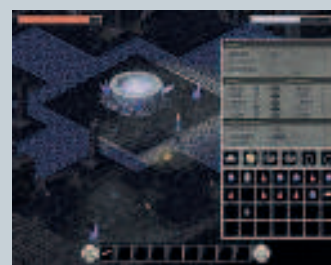
For every indie team that uses their freedom to produce something unique you get an *Invadazoid*, which has you fending off Space Invaders with an *Arkanoid*-style ball and paddle, and wanting \$20 for the privilege. It's a pairing that doesn't work too badly except for *Arkanoid's* Last Brick Syndrome: Hell Edition. Imagine how annoying it is having your carefree projectile rebounding around the top of the screen as the last alien bears down on you. The demo offers an hour of play, which is more than enough.

**Needs** 500MHz CPU, 128MB RAM

**Wants** 800MHz CPU, 128MB RAM

**Net gaming** None

**42%** **PCF says...** "Underdeveloped and pricey – get the demo."



## Morning's Wrath

Price \$10 Developer Ethereal

Darkness Interactive Web [www.morningswrath.com](http://www.morningswrath.com)

Big commercial action RPGs could learn from *Morning's Wrath*, a *Diablo*-like that manages to be compelling due to a half-competent script and simple structure. A warrior princess in a besieged castle, you start at a well of magic in the basement and need to become tough enough to repel the invaders. You can delve deeper and come up against monsters, or you can go back up into the warzone to search for artifacts to strengthen the well. It's a shame the control scheme is so clunky.

**Needs** 800MHz CPU, 128MB RAM

**Wants** 1GHz CPU, 128MB RAM

**Net gaming** None

**70%** **PCF says...** "Hack, slash, repeat. Clumsy but functional."



# The future of GRAPHICS

Is Microsoft's latest graphics platform really revolutionary? Yes, indeed. But as **Jeremy Laird** discovered, you'll need to sort your Unified Shaders from your High Level Languages if you want to work out why

**S**hiny water, sparkly character costumes and shadertastic post-processing effects. There's nothing like a few showbiz visual effects to paper over the yawning gameplay cracks in your average PC shooter. Give it up, therefore, for good old DirectX 9. It's the multimedia API (application programming interface) upon which the vast majority of the most advanced and visually stunning PC game engines on planet Earth are based. It lays the foundations for several cutting-edge 3D rendering technologies including fully programmable pixel and vertex shaders as well as providing support for a virtually endless list of eye-candy added extras such as displacement maps and specular lighting. And it's what enables the PC to mercilessly pummel every other consumer-level graphics rendering device in the world.

It's fair to say, in fact, that it's so powerful, existing PC titles have barely scratched the surface of DirectX 9's capabilities. What's more, DX9 is one of the few features of the oft-maligned Windows XP operating system that even professional Microsoft maligners agree is a proverbial "good thing". But when it comes to PC graphics, today's cutting edge kit is tomorrow's hopelessly dated



detritus. The permanent graphics revolution continues.

## THE X FACTOR

Enter, belatedly, Microsoft's latest client operating system, the elusive, increasingly infamous and just possibly dysfunctional Windows Vista, due out in early 2007 as we type these words. Vista may yet turn out to be little more than a cheap and chintzy reskin of Windows XP. It might eventually be remembered as a monument made manifest in binary code to Microsoft's inability to complete large software projects. However, if

nothing else, Vista could well be worth the wait just for DirectX 10. It's a painful cliché, but DX10 represents the next big step in desktop graphics technology.

According to Chris Donahue, one of Microsoft's top DirectX dogs, it's the first time the company has started from scratch since the very first DirectX API was unveiled. "Other revisions of DirectX have been incremental updates on the first version we introduced with Windows 95," Donahue says. It also benefits from the new approach 

*Eve Online (above) and Unreal (left) will be utterly transformed by DX10.*

## DirectX 10 in 50 words

Making sense of Microsoft's all-new API

**Speed, stability, efficiency and features. OK, that's five words, but you get the idea. DX10 represents a clean break from all previous DirectX APIs and most notably makes possible for the first time graphics chips with unified pixel, vertex and geometry shading capabilities. DX10 promises to do more to improve in-game detail than any previous API.**



**"Vista could  
well be worth  
the wait, just  
for DirectX 10"**







Direct X10's 3D prowess will allow you to see *Oblivion's* Great Forest as it was originally intended.

to device drivers in Vista and in particular the new Windows Vista Display Driver Model, known as WDDM for short. As Donahue says, DX10 will deliver "the biggest leap in graphic performance since the original introduction of DirectX."

However, before we get into an elbow deep discussion of shader

## "DX10 will never be made available for Windows XP"

models and rendering pipelines, first a quick lesson in Microsoft semantics. For the record, DirectX 10 is actually a collection of multimedia APIs which includes sound and input devices, among others, as well graphics. It's the Direct3D 10 sub-API, therefore, that is responsible for drawing 3D

graphics within the brave new world of DX10. It's also worth noting that, in order to reflect the magnitude of the revisions in D3D10, Microsoft toyed with the idea with the renaming it to WGF (Windows Graphics Foundation). In the end, the suits at Microsoft's HQ in Redmond, Washington chose not to. And for the purposes of simplicity and consistency, and because it's what your average Joe is used to, we'll stick with DX10 as an umbrella term for Microsoft's new 3D rendering platform.

With that out of the way, let's tackle the first and most important aspect of DX10 you need to get your grey matter wrapped around. In simple terms, DX10 is a clean, mean rendering machine – it's entirely unsullied by DirectX API's of the past. The immediate implications of this are threefold. Firstly, DX10 itself does not provide backwards compatibility for crusty old games coded using previous

## There's more to life than games, you know

DirectX 10 and the trend towards non-gaming graphics card applications

Back in the early days, there was no doubt which chip packed the most punch: the CPU. The latest high-end GPUs rival CPUs for both transistor counts and sheer grunt. Intel's Core 2 Duo chip, complete with no less than 291 million transistors, actually boasts fewer logic gates than ATI's 384 million-trannie monster, the X1950.



With that in mind, it's not surprising that efforts are being made to harness the massive computing power of GPUs for more than gaming. Of course, a GPU is a specialised slice of silicon. Unlike a CPU, it's not capable of turning its hand to almost any task. But with the arrival of the unified shader instruction set with DX10, GPUs will be more flexible, programmable and powerful than ever.

For starters, the even more powerful 3D feature set of DX10 will make desktop-class GPUs capable of rendering genuinely movie-quality CGI special effects. Hollywood-rivalling image quality in TV productions could

well be the consequence (though it probably won't prevent the new Doctor Who from being as ghastly as ever).

What's more, the new driver model in Vista also allows more transparent access to the GPU. Combined with the more powerful unified shader specification, DX10 is expected to usher in a new age of non-graphics apps, often referred to as GPGPU (General Purpose Graphics Processing Unit) apps. Ray tracing, neural networks, database computing and cryptography are just some of the tasks that are likely candidates for widespread GPU acceleration. However, the elephant in the room when it comes to non-graphics applications remains physics simulation.

Although DX10 contains neither support for discreet physics processors nor a physics-specific API, the improvements both in programming flexibility and GPU access will make hardware physics acceleration on graphics cards much more effective.

Vista vs XP	MULTIMEDIA API SUPPORT	SHADER MODEL	STABILITY	SPEED	SHIFTY SHADERS?
<b>WINDOWS XP</b> 	DirectX 9 and backwards support for all earlier APIs. Support for DX10 will not be added.	It's sophisticated and powerful, but Shader Model 3's discreet pixel and vertex shaders create load balancing problems.	System stability compromised by video driver running in kernel mode.	DirectX 9 suffers from significant slow downs when rendering multiple objects.	Numerous optional features in DX9 force games developers to create separate code paths for ATI and NVIDIA hardware.
<b>WINDOWS VISTA</b> 	Full support for DirectX 10. DirectX 9.1 provides support for previous APIs.	Shader Model 4 delivers a unified, fully programmable shader specification. Will give birth to the first unified-shader graphics processors.	Video driver runs in user mode and theoretically cannot cause the system to crash.	DirectX 10 makes a clean break from previous APIs. It's leaner, faster and more efficient.	All parts of the DirectX 10 specification are now compulsory. DX10 games will require a single code path making 3D card-specific optimisations theoretically impossible.



Realistic reflections and specular lighting add realism to pitched battles in *Eve Online* (below).



DirectX APIs. They're catered for by a new revision of DirectX 9, known as DX9.L, which runs side by side with DX10 in Vista. Secondly, DX10's dependency on the new driver model means it will never be made available for Windows XP. That would require a major rejig of the XP kernel and you don't need us to tell you that simply ain't gonna happen. Finally, DX10 promises to be just plain faster and more efficient, regardless of the new features it. Partly that's down to how DX10 marshals communications between hardware and software. But it's also a function of a brand new set of optimised dynamic link libraries (DLLs) that do not incorporate older, clunkier versions of the API.

### EXTRA FEATURES

So, DX10 has been thoroughly ported and polished for efficient performance. But it also delivers a huge array of new functions and features, the most high profile of which is Shader Model 4, the latest in a long line of programmable graphics shader specifications. Shader Model 1, of course, introduced simple integer programmability and for the first time enabled the kind of effects that still make PC enthusiasts go all gooey – realistic water, specular highlighting and all that jazz. Shader Models 2 and 3, meanwhile, brought full floating point programmability and support for almost movie-quality shader

## Bantering with the beast

Five quick questions for Chris Donahue, Director of Business Development, Games for Windows Entertainment and Devices Division. Sounds boring, but he's actually one of Microsoft's DirectX head honchos

**1 Why isn't DirectX 10 being offered to Windows XP users?** DirectX 10 is built on the new Windows Vista Display Driver Model (WDDM) which is designed to usher in a new era of graphic capabilities while increasing stability and reliability. DirectX 10 requires specific features of the Windows Vista operating system in order to take full advantage of graphics hardware, specifically the functionality offered by WDDM. WDDM offers full virtualisation of video memory and the GPU, allowing a much more powerful experience for DirectX 10 developers and gamers alike.

**2 Will DirectX 10 improve the appearance and functionality of the Vista graphical user interface?** The Windows Vista GUI is based upon Windows Presentation Foundation (WPF), a consistent programming model for building applications, whether they are installed on a system or are loaded into a web browser and available for Windows XP SP2 and Windows Server 2003 SP1, as well as Windows Vista. The graphics component of WPF is based on DirectX 9 to allow down level compatibility for previous operating systems (PCF says: in a word, no!).

**3 What allowances does DX10 make for physics to be simulated on GPUs?** The combination of the new DX10 architecture for both the API and the hardware along with the new driver model open the GPU for uses beyond graphics. The ability to use the GPU for non-graphics operations such as physics is one of those possible purposes.



**4 Will future versions of DirectX support physics processing chips?** We are working with the companies that currently make physics engines (both hardware and software) and have nothing to announce at this time.

**5 Is DirectX 10 related to the API used for the Xbox 360?** DirectX 10 is a brand new set of API's. The Xbox 360 utilizes DirectX 9 graphics. We consider DirectX 10 to be the biggest leap in graphic performance since we introduced DirectX with Windows 95, and expect it to be a revolutionary new technology for game play.



Alan Wake looks set to become a convincing reason to upgrade to Windows Vista.

programmes and a range of high quality post-processing effects (think heat haze, convincing motion blur and depth of field).

Significantly, however, Shader Models 1, 2 and 3 all shared the same basic architecture based upon discreet specifications for pixel and vertex shaders. Consequently, every programmable PC graphics chip to date packs separate arrays of vertex

and pixel shader units (well, Intel's GMA video chips lack vertex units, but that's a story for another day). And that's a problem, because the simulated environments in today's 3D games are hugely, almost insanely complex and varied.

Games such as *Far Cry* and *Elder Scrolls IV: Oblivion*, for instance, combine both huge outdoor panoramas and murky,

claustrophobic interiors. Typically, outdoor scenes with detailed landscapes and dense foliage, such as the Great Forest in *Oblivion*, consist of massive geometry counts. That means serious work for a graphics chip's vertex units. Move indoors, however, and the emphasis often shifts to rendering detailed per-pixel surface effects such as oily or translucent materials and



## UP CLOSE MICROSOFT DX10

### Triangle-tastic

Thanks to the new geometry shader in DX10, polygon counts in upcoming games will go through the roof. Result? More densely packed foliage than you can shake a set of pixel-shaded secateurs at.

### Out of the shadows

The geometry shader will also allow developers to drape every single game scene in soft and realistic dynamic shadows.

### Balanced performance

The first fully unified DX10 GPUs, due to appear early in 2007, will deliver much more flexible performance for both geometry- and pixel-intensive rendering loads. That means smooth performance in almost any gaming scene.

### It's all in the details

By removing much of the per-object CPU load that DX9 suffers from, DX10 will allow the realisation of 3D world packed with more detail than your peepers can process.

### A level playing field

The arrival of DX10 will bring an end to the separate code paths used for ATI and NVIDIA graphics hardware. With identical feature sets from both camps, it'll be a straight fight for the performance crown. Well, that's the theory...

### Realistic-looking metal.

So, here's the rub. When rendering an outdoor scene, a GPU will hum away with its vertex units sweating nails, all the while the pixel processors kick back, wind down and generally take it easy.

This scenario is reversed for detailed indoor environments. Either way, there are a huge number of transistors sitting around twiddling their tiny, 90nm thumbs. Wasted resources, in other words.

### WHAT'S THE ANSWER?

On paper, the solution is obvious: a graphics chip based on flexible multi-purpose processing units capable of reconfiguring themselves on the fly to handle both pixel and vertex work. And courtesy of a new,

single instruction set for both pixel and vertex shading, that's precisely what DX10 enables. Yup, it's the much fabled "unified" graphics chip with a single array of shader units capable of dynamic load balancing to meet the pixel and vertex processing needs of any given 3D scene has been made possible by DX10. In simple terms, a unified GPU will run much closer to maximum efficiency than any discreet shader chip.

Intriguingly, however, DX10 does not actually require that

a GPU offer fully unified shaders in hardware, which explains why NVIDIA and ATI were rumoured to take such divergent approaches with their first DX10-compliant GPUs (see boxout page 127 for the full details the upcoming DX10 killers from NVIDIA and ATI respectively).

But there's more to Shader Model 4. It also debuts a brand new type of shader processing, known as the geometry shader. Unlike vertex shaders, which are capable of processing only vertices (the point where two lines converge), the geometry shader can handle whole

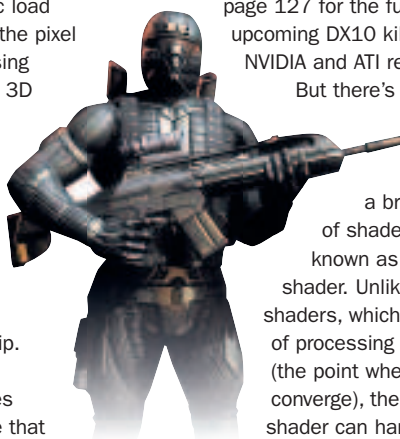
triangles. It's best thought of as a geometry booster that allows for even more detailed environments and character models. As Microsoft's Donahue says, the new geometry shader will allow games developers to "crank up the fur, fin and fire effects without slowing down framerates."

### LOW OVERHEADS

DX10's next trick solves one of the most serious limitations of DX9, known as object overhead. It boils down to an inability to draw large numbers of 3D objects efficiently, and is a result of the rather long winded chats that take place between the game application, the API itself and the video driver whenever a new object is sent to the video subsystem for rendering. Each time one of these little pixel processing parleys occurs, it uses up CPU resources. The more objects, the heavier the CPU overhead. For many developers, it's a major Frenchman in the head.

To cut a long story short, DX10 significantly reduces the number of resource-sapping calls made to the CPU when rendering objects. The result, in game development terms, will be more realistic gaming worlds.

The final big-news revision is the removal of the so-called "cap bits" GPU querying process. In the DX9 API there are a large number of optional features that GPUs may or may not support. Via the video



## To unify, or not to unify

ATI's unified R600 takes on NVIDIA's old school G80

A brave new world of unified pixels, vertex and geometry shaders, that's what DirectX 10 is all about, right? Yes and no. Although in many ways DX10 will force ATI and NVIDIA to build chips with much more closely matched specs, producing a GPU with unified shaders is not compulsory. To be fully DX10 compliant, a chip only need support the unified shader instruction set at API level and not in hardware.

Which explains why the first DX10 GPUs from ATI and NVIDIA sport chalk 'n' cheese shader architectures. Unsurprisingly, given the fully unified Xenos chip it produced for the Xbox 360 console, ATI's offering, the R600, is

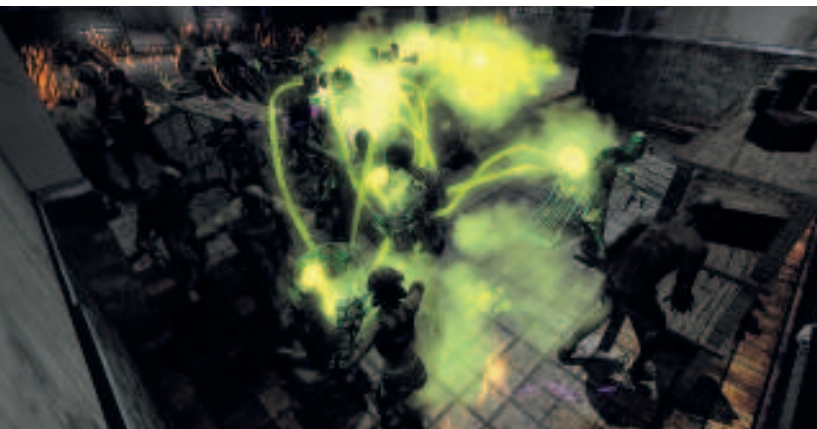
the full unified monty. PCF's insider info indicates R600 will be based on four unified arrays, each with 16 units for a grand total of 64 shaders. On paper, that's not a huge jump from the shader count of its existing flagship chip. R580 boasts 48 pixel and eight vertex shader units. But as well as increasing the performance and efficiency of each unit, ATI will be hoping that R600's shader array runs closer to peak capacity than any conventional discreet pixel and vertex shader design.

As for NVIDIA, the Californian graphics outfit was rumoured to have chosen a more conservative configuration for its DX10 wonder chip,

G80: 32 pixel shaders and a 16 unit array designed to handle both vertex and geometry work. Recent revelations suggest that G80 is actually a fully unified architecture with 128 (count-'em) pipelines running at 1,350MHz on a 384-b7 memory interface. All this is speculation, though, for the time being. We'll have an update on [blog.pcformat.co.uk](http://blog.pcformat.co.uk) by the time you read these words, and a full review next issue.

There's always a time lag between the introduction of a new Microsoft API and the appearance of supporting game engines. It's likely that both G80 and R600 will be history before DX10 games are the norm.





*Hellgate London's frenzied zombie battering will be all the more photogenic once DirectX 10's Shader Model 4 technology is harnessed.*

driver, the GPU reports its full list of "capability bits" to the operating system, which allows games to enable code paths tailored for specific feature sets. And that, of course, means developers are forced to develop different code paths for the different cap bits supported by NVIDIA and ATI graphics processors as well as Intel's integrated 3D chips.

With DX10, however, Microsoft has cracked its 32-bit precision-rendered whip. Everything in the

## "DX10 greatly reduces the number of calls to the CPU"

new spec is compulsory. There are no optional extras. That's crucial for two reasons. Firstly, it means developers can spend more time polishing a single code path rather than supporting multiple GPU designs. Secondly, it promises to put an end to the optimisations that some games developers include to support the features offered by one or other of the big noises in PC graphics. Closely related to this measure is the removal of support for raw assembly code to construct

shader instructions. All shaders in DX10 must be created using the D3D10 High Level Shader Language. And that means there's only one place GPU-specific game optimisations can take place – in the video driver.

Of course, as with any new DirectX API, DX10 also boasts a terrifyingly long list of detail revisions and improvements. Books can, and very probably will, be written on the finer details. Some of the highlights include more flexible and granular control over graphics memory access, more robust shader programming and a host of new features related to sound and game control input devices. But not support for discreet physics chips.

Suitably enough, however, it's actually fine details, in the graphical sense, for which we reckon DX10 will be most remembered. Yes, it will go down, with any luck, as the API that helped to clean up the seedier side of the graphics industry (kiss goodbye to the worst examples of blatant game-engine bias in favour of either ATI or NVIDIA). But most of all, DX10 will be remembered for being the API that produced the first genuinely convincing, massively detailed and totally immersive gaming environments. Bring on 2007. Bring on Vista. And bring on the first DX10-powered games. **PCF**

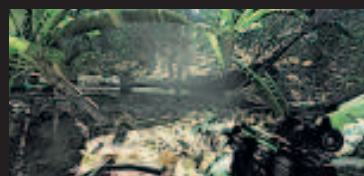
## DIRECTX 10 GAMES

Seven exclusive titles worth waiting for



### ALAN WAKE REMEDY

>> If you want to find out just how good Remedy's mysterious adventure game really is, you'll have to upgrade to Vista. It won't be available for Windows XP.



### CRYSIS CRYTEK

>> If you've seen the demo videos, you'll know this new shooter from the maker of Far Cry could be the most visually stunning game ever.



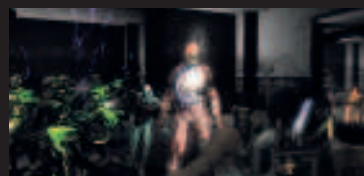
### EVE ONLINE CCP GAMES

>> Everyone's favourite spacecapade is tooling up for a major DX10 upgrade. However, the existing DX9 Trinity engine will continue to be developed in parallel.



### HALO 2 BUNGEE

>> Master Chief is back in the second instalment of the Halo for the PC. Better late than never, the PC version of Halo 2 includes hot multiplayer action and is a Vista-only title.



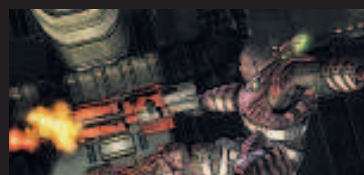
### HELLGATE LONDON FLAGSHIP STUDIOS

>> A DX10 RPG set in a dystopic London and a battle twixt the Templar order and the zombie hordes. Ahh, that old chestnut.



### FLIGHT SIM X MICROSOFT

>> The tenth (count 'em) instalment of the epic MS flight sim series timed to coincide with the launch of DirectX 10? Foof for thought for conspiracy theorists.



### UNREAL TOURNAMENT 2007 EPIC

>> The new Unreal 3 engine is shaping up to be a graphics tour de force. Gameplay likely to involve a multiplayer frag-fest.

## RIP OpenGL?

What does the future hold for the open-source competitor to DirectX 10?

When Microsoft dished the details on Vista and DX 10, it announced that native support for third party graphics APIs would not be provided. Cue much wailing on behalf of OpenGL proponents.

Instead, the likes of OpenGL would run via a layer on top of DirectX, compromising performance by half. Whatever the truth, it's academic now

because MS has tweaked API support in Vista, allowing the likes of OpenGL to run via installable client drivers just as in XP.

Since the huge success of the Quake III engine from id, it's fair to say that OpenGL as an API for development has been on the slide. The Doom III engine has been a relative failure in terms of licensing to third party developers and the

number of other high tech OpenGL engines is best described as slim to none.

Of course, it's worth recognising that OpenGL isn't targeted primarily at games creation. It's a cross-platform API widely used for CAD and visualisation and allows rendering engines to be ported between devices powered by a range of operating systems. In other words, OpenGL's survival

does not depend entirely on support from PC games developers.

Nevertheless, with few developers choosing to base their engines on OpenGL and Microsoft not only adding ever more sophisticated features to DX10 and demanding ever closer hardware compliance from chip makers, it's hard to see a OpenGL resurgence on the PC.



# PCFormat

# on the disc

## The very best software and games

### HIGHLIGHTS

#### Just Cause – playable demo!

Return to an era when real men wore pastel with this Eighties-referencing tour de force. Political insurgents rub shoulders with drug barons in San Esperito – you and your mullet must sort them out.



### On your disc

#### Full programs

Our discs deliver top-quality, high-value apps and utilities. Let us know if there's something you want and we'll do our best to get it for you.

#### Play the best games

Don't wait hours to download this month's best games demos. They're all here, right now.

#### New games for old

It's not all about the latest and greatest. Every month we have a selection of the best mods and add-ons for your existing titles.

#### Who needs manuals?

We want you to get the most from your free programs. PCFormat features more software guides than any other PC magazine in the whole wide world. Sometimes.

### PLAY THIS



#### Dawn of War: Dark Crusade

Battle the evil hordes in this Warhammer adventure

**LMB** Select  
**RMB** Action  
**MSwheel** Zoom  
**Alt** Rotate camera  
**MMB** Move map



#### Annihilated Empires

Epic real-time strategy action in a magical world

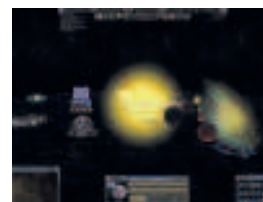
**LMB** Select  
**RMB** Action  
**Ins/Del** Zoom  
**Page Up** Camera  
**MSwheel** Move map



#### LMA Manager 2007

Hurl abuse from the touchline! Classic

**LMB** Select  
**RMB** Alt menu  
**Esc** Options  
**F1** Squad  
**F3** Laptop



#### Space Empires V

Pan-galactic wars, and a spot of light trading

**LMB** Select  
**RMB** Action menu  
**MSwheel** Zoom



#### Broken Sword 4

It's back, and it's better than last time, we promise

**Cursor** Move  
**L CTRL** Run  
**LMB** Quick action  
**RMB** Action menu

### REGULARS

#### Buyer's guide

The minefield of PC hardware can be a daunting place, but fear not, our comprehensive buyer's guides make it easy.

#### Benchmarks

Every other day it seems like there's a new graphics card released, our independent benchmarks keep you up to date with what's hot.

#### Latest drivers

Getting the optimal performance out of your machine is the goal of any PC owner. Keep your rig frosty with all the latest drivers.

#### All the apps you need

From antivirus to spyware scanners, we've got all the apps you need to ensure the smooth running of your system.



Dawn of War returns on this month's disc.

Get **PCFormat** delivered to your door every month...  
Subscribe on page 150

#### YOUR CONTACTS

In the very unlikely event that you have a problem with your disc...

DVD problems on the web: [www.futurenet.co.uk/support](http://www.futurenet.co.uk/support)

By email or phone: [support@futurenet.co.uk](mailto:support@futurenet.co.uk), 01225 822 743

If all else fails check out our forum: [forum.pcformat.co.uk](http://forum.pcformat.co.uk)



# workshops

## Get more from your PC today

**OUR PROMISE**  
Every month we bring you the biggest and broadest selection of tutorials around

### DO THIS

Let those creative juices flood out

#### 132 Football Manager 2007

Plot your favourite club's route to European domination with our guide.

#### 134 freenigma

Encrypt your web mail and keep your messages safe.

#### 136 Overclock your mouse

Well, now we've heard everything. Yes, you can overclock a mouse. Really.

#### 138 Steganos Security Suite

Security's not a dirty word – it's the difference between a PC that works and one that doesn't.

#### 139 One-minute website

Designing websites used to be an arcane, time-consuming process, until now.

#### 142 Sort out your system

PCs are easily confused, bless them. Put them straight with this driver updater.

# 132

## Football Manager 2007

Take control of a squad of underachieving, wheezing layabouts, and turn them into a crack squad of footballing colossi with our indispensable guide.

### 136



#### Overclock your mouse

Turn your errant squeaker in to a killing machine with our fragtastic overclocking guide. Never lose a game of *Quake* again! Maybe.

**Trial software**

### 140



#### Create a website with WebX

Web design's child's play if you use this handy little package. Build your own online presence in under a minute!

**Full software**

### 142



#### Driver Genius 5

Device drivers are the bane of several PCF staffers' lives. Irradicate their various foibles with our workshop

**Software toolkit**



**For a full list of everything on the disc please refer to the disc's interface. Controls for the games are listed there too.**

### ON THE DISC

Check out the 'on the disc' boxout in each workshop to find out what other relevant programs are waiting on the PCF disc, as well as how to install or upgrade new apps.





Miles Jacobson, Managing Director of Sports Interactive, gives us a peek into his managerial life



**What's the first signing you look for when taking over a team?**

**That depends on the squad in place – normally someone in the attacking or**

**attacking midfield positions though – I like my teams to score goals.**

**What sort of players do you have making up the spine of your teams?**

**The spine is the goalkeeper, the defensive midfielder and one of the strikers. Hard workers, the lot of them...**

**With your knowledge of the game's database, who's your favourite bargain?**

**In Football Manager 2007, it's Vincent Enyeama, a Nigerian goalkeeper.**

**What's your preferred tactic in the game?**

**I make my own 442A tactic, including a midfielder running back into the anchor role, and another one with a freer role.**

**How do you deal with opposition players in the specific player instruction screen?**

**I leave it to my default tactic until half time, then switch if it's going badly. I'm a believer in closing down the opposition, and getting strikers on to the wrong foot.**

**How do you approach training?**

**I train everyone together, but a few get extra training if they aren't doing their jobs properly. I try and get players to play in as many positions as possible.**



**Nigerian goalkeeper Vincent Enyeama is Miles Jacobson's favourite steal.**

**Have your say** [forum.pcformat.co.uk](http://forum.pcformat.co.uk)

# How will you manage?

**F**or more than ten years Sports Interactive has been producing the very finest in football management games, from the beginnings of *Championship Manager* with Domark, through their time with Eidos, and now with their latest partnership with SEGA and *Football Manager 2007*.

The level of accuracy and sheer detail in the game has meant that it can be punishing to pick up and play at the first attempt. This latest iteration is by far the most complex version yet, but paradoxically the most accessible and

user-friendly thanks to the hints and tips, and the in-depth tutorial.

Still, slipping comfortably into that worn sheepskin coat – the mantle of football management – is tough. That's why we've put our heads together and coupled our own 13 years of management experience with that of the game's creators, to bring you this comprehensive guide to starting out in the game. You'll pick up your own management style as you play, but for the noobs, as well as the experienced, you'll find something here to enlighten you. **PCF**

**"This iteration is by far the most complex version yet but the most user-friendly"**



## DEFENDING

A solid defence is the lynchpin of any side, and the starting point for most attacks. Your two centre-backs need to be strong, good in the air, have good stats for positioning, marking and, obviously, tackling. It's also worthwhile having two full-backs that can contest aerial balls too, as well as being good with their feet, to cope with crosses coming in at the far post. Having your centre-backs tightly man-marking the opposing strikers is only really worth it if the team is playing two upfront, otherwise stick with zonal.



## MIDFIELD

Having a creative but defensively minded central-midfielder tracking back and not making forward runs, means that he'll follow opposition midfielders and strikers running from deep, which will allow your defence to stay in position at all times. This also allows for an attacking midfielder to push forward without compromising the team's overall integrity.

## UP CLOSE TALKING TACTICS



## WING PLAY

An all-out attacking right-winger with good pace, dribbling, crossing and finishing will provide ammunition from the right and attack the box for balls from the left. A more measured, creative left-sided midfielder is needed to spread the play down the line to the mobile striker and to cross from deep.



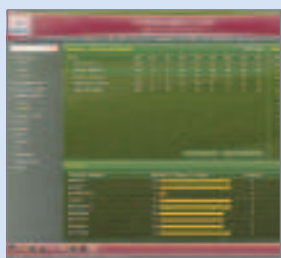
## STRIKERS

A left-footed, skilful, pacy striker is great for pulling the opposition defence out of shape. It provides more space for your traditional striker to move into. The second striker should be good in the air for the flick-ons.

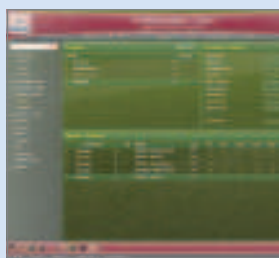


## Training day

Mould those overpaid jessies into a tightly drilled unit



**1** Making sure that your coaches are handling the right areas of training is vital. Check the star rating next to the coach's assignments and make sure all areas are covered by one staff member. Switch the coaches to ensure each area gets as many stars as possible.



**2** If particular players aren't performing in key areas, such as your wingers failing to pick out a man in the box, then separate them from the team until they start to pick up. Create a new regime focusing heavily on the key areas that need working on.



**3** Training players in different positions gives you cover for key positions should injuries occur. Young players are more likely to be able to adapt to a new position. Key attributes can be a guide – a left-back with good crossing and creativity may make the transition to winger.

## ON THE DISC

### ProStroke Golf

Having conquered football management with our guide, why not switch sports and take Tiger on at his own game with this playable demo?

[www.prostrokegolf.com](http://www.prostrokegolf.com)

### Dawn of War – Dark Crusade

If you can handle 30 footballers' egos, marshalling an army should be easy.

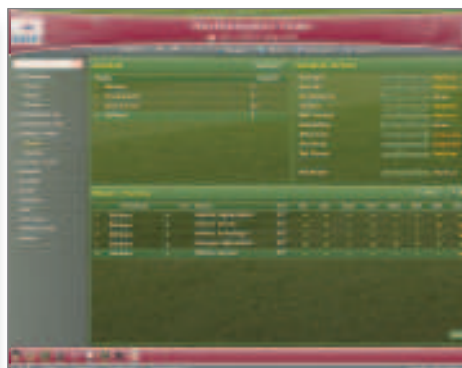
[www.dow-darkcrusade.com](http://www.dow-darkcrusade.com)

## Match making

Time to prep your players and let them loose on the opposition



**1** It's worth perusing your scout's report on your next opponent. His thoughts are now much more valuable than before, and he'll note players that you might want to pay special attention. Remember, devoting too much of your resources to one player could damage your game.



**2** You'll have your core squad already set out, but different things can affect the player's morale and if they're unhappy they won't play as well as they should. Media questioning prior to the match can seriously affect this, both negatively and positively.



**3** The pre-match talk allows you to set out your stall for the coming match. All players react differently to your encouragement and you'll learn who likes what. Check their Personality in their profiles to give you an idea – for example, an ambitious player might want ambition from you.



**4** Unless things are going disastrously wrong in the first half, you should be able to leave your players to it until half-time. Check the opposition team's stats and see who's been the most effective, then switch to the opposition instructions and pay attention to those players.



**5** Sort out your team talk and send them out. Keep an eye on your team's condition throughout the second half – look for anyone who's flagging – but remember not to use up all your subs too quickly. An injury when your subs are already on the pitch is as good as a red card.



**6** The post-match team talk, and media questioning, gives you the chance to keep up morale or boost it after a poor performance. Being too hard can bring them down, but false praise can be as damaging. Criticising an individual performance to the media can help, too.



# Encrypt your email

Andrew Sutcliffe explains *freenigma's* encryption for webmail

**W**hile the less tech-savvy internet users of the world carry on thinking that passwords are simply a daily annoyance, and using 'password' as their own is a good idea, the other end of the web-surfing spectrum – the hackers and script kiddies – will carry on stealing their private information. Now, we're not suggesting that you use your *Gmail* or *Windows Live Mail* accounts for exchanging government secrets, but we do think that everyone is entitled to a certain amount of privacy online. And that includes stopping people reading your email, regardless of its content.

Sadly, we're not allowed to suggest what we'd actually like to do to the people putting your privacy at risk. Apparently that's frowned upon in some quarters (and as has been suggested, physically impossible) – but that doesn't matter, because we've got prevention rather than cure in the form of *freenigma*. Don't be alarmed by the shyness inherent in the lack of capitalisation – this is a powerful tool that's easy to use and will keep your email private.

As it's still in beta, *freenigma* is an invite-only service, but it's ridiculously easy to get hold of an account. The only other things you need are a web-based email account such as *Gmail* or *Windows Live Mail* and *Firefox* – and if you don't have those, you're reading the wrong mag. **PCF**

**"This is a powerful, easy-to-use tool, and will keep your email safe"**

## ON THE DISC

### Sensiveguard

Further online peace of mind is offered by *Sensitiveguard*, which protects your beloved PC against typical threats such as spyware, viruses and evil keyloggers.

[www.sensitiveguard.com](http://www.sensitiveguard.com)

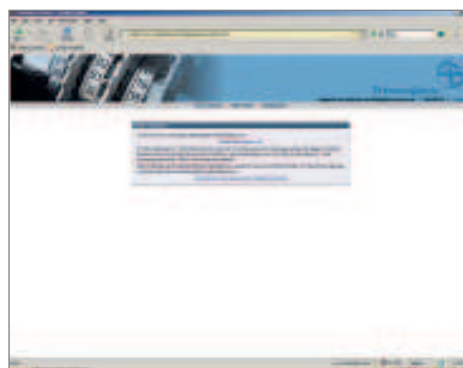
### Steganos Security Suite

If you're really paranoid about security, look no further than this suite of privacy maintaining, track-covering apps, and run it alongside your *freenigma* installation.

[www.steganos.com](http://www.steganos.com)



**1** The first thing you need to do is get yourself an invite to the *freenigma* service. This really couldn't be easier. All you have to do is connect to [www.freenigma.com](http://www.freenigma.com). You'll see the **Register for an invitation** section. Fill in your first and last name and your email address, and then click on **invite me!**



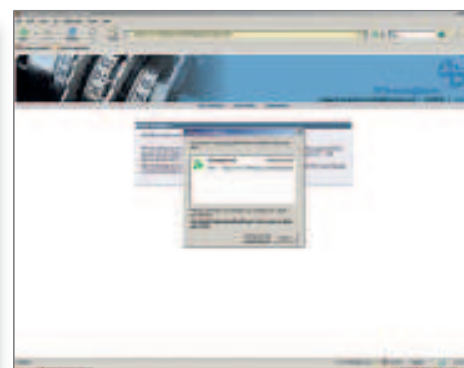
**3** The next stage in the process is important – choosing a password. Remember that you'll need your password in order to be able to decrypt email, so don't ignore *freenigma's* helpful prompts. And, for the love of Strogg, please don't choose 'password' as your security key, however ironic you think it is.



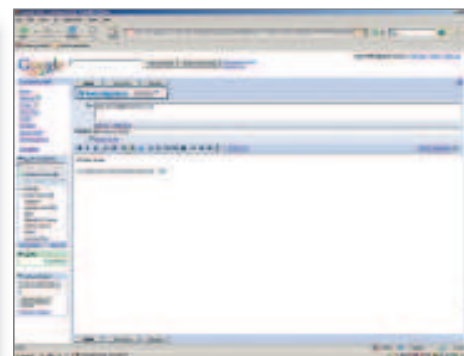
**5** After installing the extension, you'll need to restart *Firefox*. When you do so, you'll see a message saying the extension was successfully installed and you can log in to the *freenigma* website at your leisure. Log in and start adding contacts or inviting other people to join the *freenigma* service.



**2** Your invitation will be sent to that email address. When it arrives, you'll have a link that you click to begin the registration process. Click on it to begin. Your name will probably already be filled in, but the first screen is where you can add or change which email accounts you want to use with *freenigma*.



**4** Now we get to the clever bit. You're all registered and logged in and ready to install the *freenigma Firefox* extension. All you have to do is click the link that says **install freenigma now** and you're sorted. If you have any minor troubles, have a read of the text under the link – you be having pop-up blocker problems.



**6** Fire up your web mail account. If it's *Gmail*, simply click the **Compose Mail** link and you'll see the *freenigma* toolbar. Simply write your email as normal and then click **Encrypt**. Enter your *freenigma* password and your email will be encrypted. Once that's done, all you need to do is send your email as normal.



# Overclock your mouse

Alec Meer attempts the ridiculous, but with some sublime results

**T**here's some things in life you don't expect to hear. "This is your sister, Brian", for instance, or "McDonald's new Pigeon Burger is delicious". "Overclock your mouse" falls into roughly the same category – it sounds preposterous and futile. Actually, it's very real, very easy and can be rather useful.

In all honesty, it's not the mouse itself you're overclocking, but rather the polling rate of your USB ports – quicker refreshes means faster and more accurate reading of what your mouse is doing. Of course, dear old Windows plays it as safe, keeping USB clocked as low as possible – but with a bit of h4x0r magic, you can double or quadruple the update rate.

## PEST CONTROL

The effects aren't dramatic, but there's certainly a sense of greater responsiveness, which could make enough difference in a multiplayer shooter to be worthwhile, or just to save you forking out for a newer mouse. Obviously, this method is for USB mice only, plus you won't get much out of a laser or cordless mouse – it's most effective when used with a wired optical model.

Of course, there is a degree of risk here. It's unlikely, but you could burn out your mouse, and do bear in mind that everything that you plug into your overclocked USB ports will be affected – some for better, some for worse. The method is reversible, but physical damage to your peripherals isn't. **PCF**

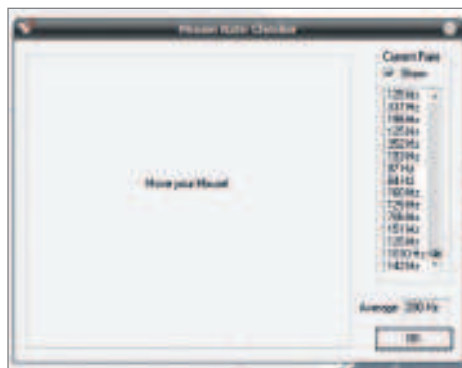


Speeding up a tardy squeaker might make sniping in *BF2* easier.

**"The effects aren't dramatic, but the mouse is a lot more responsive"**

## Of mice and Megahertz

How to squeeze more speed from your rodent



**1** First, let's gauge just how tardy your optical mouse is. *Mouse Rate Checker* (on the disc or from [tscherwitschke.de/download.html](http://tscherwitschke.de/download.html)) measures the update speed of your mouse. At first you'll see something between 100 and 250Hz reported. This, clearly, isn't good enough.



**2** The *USB Mouserate Switcher* is your salvation. Grab it from the disc or [tinyurl.com/hcr7c](http://tinyurl.com/hcr7c). Reboot into Safe Mode, being sure that you're using an administrator rather than limited user account. Once you're in, run the app, then click **Patch** to begin the dark trickery.

## ON THE DISC

### PS/2 Mouse Adjuster

If you're using a decrepit PS/2 mouse, you can increase the speed of your PC's port with this. [tinyurl.com/zwnck](http://tinyurl.com/zwnck)

### Mouse Rate Checker

This will tell you how quickly it's responding, and whether your overclock's done any good or not. [tscherwitschke.de/download.html](http://tscherwitschke.de/download.html)

### Mouse Rate Switcher

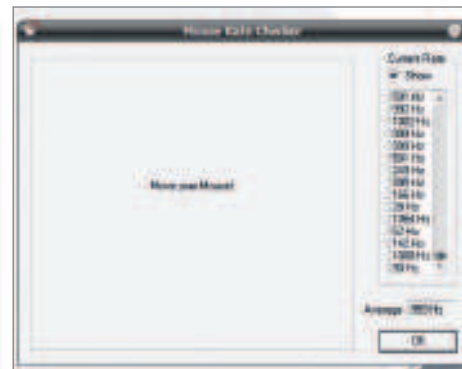
This app increases the polling rate of your USB ports. It can also roll back to the standard 125Hz/8ms speed. [tinyurl.com/hcr7c](http://tinyurl.com/hcr7c)

### Monitor Calibration Wizard

Having sorted out your mouse, why not spruce up your monitor, using this simple app? [graphicssoft.about.com/b/a/013362.htm](http://graphicssoft.about.com/b/a/013362.htm)



**3** *USB Mouserate* offers three overclocks to Windows' default of 125Hz/8ms USB polling rate. The first, 250Hz/4ms, is fairly safe, but doesn't offer a huge gain. 500Hz is mostly safe, while 1000Hz is less reliable and frankly pretty much unnecessary anyway. 500's the one to aim for.



**4** Unplug all your USB bits apart from the mouse and reboot back into XP. Load up *Mouserate* and you'll see it's much quicker. Hopefully, you'll feel it, too. Finally, plug your other USB gizmos in one by one, testing that each one still works. If it doesn't, repeat Step 3, but pick 125Hz.



# Get smart, get safe

Alex Jones cleans up his mouldering PC with *Steganos Security Suite 7*



Sort out your PC's many woes in a few clicks with *Security Suite 7*.

**S**ecurity, security security – it's all we seem to hear these days. If it's not the sinister yet disconcertingly vague hint of 'online threats' to our web-based happiness, there's malware, Trojans and keyloggers, too. There are plenty of exotic-sounding terms for what basically amounts to the labours of spotty, sociopathic script kiddies who seem hellbent on filling your PC with cack. Honestly, if any of those horrid, whey-faced urchins ever left their dank, windowless cellars, ventured to any high street or shopping mall and saw shiny copies of *Steganos Security Suite 7* on the shelves, they'd run home, tear down all their Buffy posters in frustration and throw their dedicated 486 DX80 spam generators in the bin, once and for all. Because *Steganos Security Suite 7* has their number, oh yes.

## YOUR MOVE, CREEP

*Security Suite 7*, you see, is a one-stop shop for ending the reign of spyware and its nefarious ilk on your PC. Just fire it up, choose from one of the useful options explained in more detail in the walkthrough opposite, and rejoice – your system will be safer than bungee jumping on The Moon, free from online threats and running as smoothly as it did on day one. So, let's get started, shall we? **PCF**

## ON THE DISC

### PCTools AntiVirus

Stop all this madness before it begins with a comprehensive virus battling application.  
[www.pctools.com](http://www.pctools.com)

### Registry Mechanic

If you've run SS7 and your PC's still misbehaving, it'll probably be down to the registry. Teach it some manners with this.  
[www.symantec.com](http://www.symantec.com)

### Zsoft Uninstaller

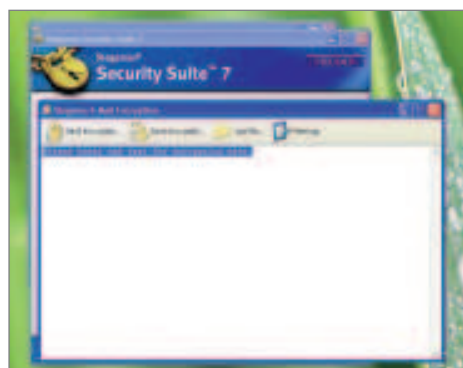
Broken installs can impede your PC's progress. Mending them is easy thanks to Zsoft.  
[www.zsoft.com](http://www.zsoft.com)

### Free Registry Defrag

Weeds out dead registry entries and compressing the bits you need will speed things along.  
[www.sysinternals.com](http://www.sysinternals.com)



**1** This is *Security Suite 7*'s menu. We'll start with *Steganos Safe*, which creates a partition on your hard drive for essential data. Click **Steganos Safe→Create**, and move your family wedding pictures and favourite MP3s into the folder when prompted. Should disaster now strike, those files are safe.



**3** Having backed up all of our data, let's tell someone about it secretly. Go back to the main menu and hit **Steganos Email Encryption**. A vaguely disappointing dialog box will appear, into which you could spill any revelation, as it uses military grade digital magic to hide your intentions. Hit **Send Encrypted** when you're done.



**5** Now, if you're certain that 'a friend' has been using your PC to access what we at PCF term 'gentlemen's relaxation photography', and you want your IP safe from harm, fire up *Internet Trace Destructor*, select which areas of your system you suspect may be in danger, and then hit **Start Trace Destruction**.



**2** If you're the really paranoid type, you can take your vital pictures of last summer's family outing to Margate everywhere with you, after you've backed up using *Steganos' Mobile Safe*. Simply tell the application how large your storage medium of choice is, and away you, and your photographs, go.



**4** All of this cagey behaviour needn't end there, though. Boot *Steganos File Manager* to encrypt files and folders in the same way. Hit **Add File**, then select whichever files or folders you want to encrypt or hide, then click **OK**, and your data will be unreadable without *Steganos'* own Decrypt function.



**6** If your PC still harbours any undesirable elements that you would rather not keep, chuck 'em in the *Shredder* in the time-honoured drag and drop fashion. Be careful what you throw away, though, as you'll never, never get the shredded files back once their gone. And we do mean never.



# Warn the people

Alec Meer creates a public announcement with *DVD Photo Slideshow*

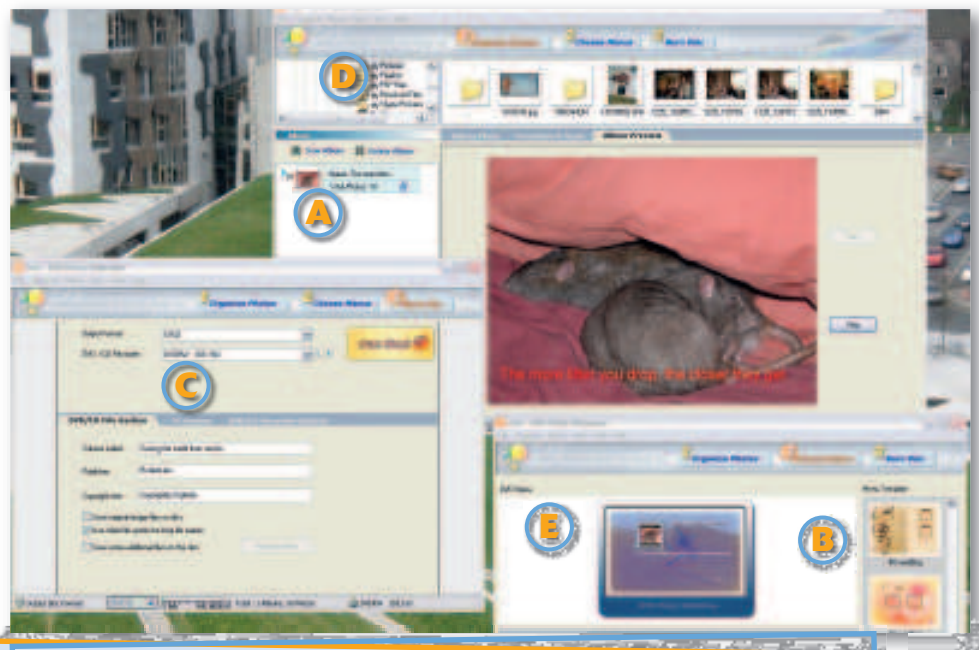
**Y**ou may have been fortunate enough to catch a recent, unintentionally hilarious advert in the cinema designed to ward morons off littering. The message that dropping rubbish helps rats survive, breed and move ever-closer to our homes is repeated in Hammer Horror fashion. PCF supports this movement because, were the world to lose its fear of rats, the fact that Alec keeps some as pets would no longer be unusual. So, we're going to aid the cause by making a video CD slideshow of some cute rat pictures and an anti-littering slogan, put a telly in our front garden and play it on repeat.

**VERMIN ART** Just drag and drop a suitable selection of rodent-infested digital photos into the panel on the left, and they'll be added to the first album. You can create multiple albums on one disc – for instance, if we want a second chapter extolling that hamsters are eyeball-devouring demons from Neptune.

**SLITHERING SLIDESHOW** You can get a sample of your gallery of the scavenging, damned creatures by selecting the **Album Preview** tab and hitting **Play**.

**FADE TO RAT** If your slideshow preview has displeased you, choosing the **Transition & Music** tab brings up some additional options. A selection of ultra-cheesy or Lucasian transitions between photos is available, as is some sample music. Our advice: import from your MP3 library.

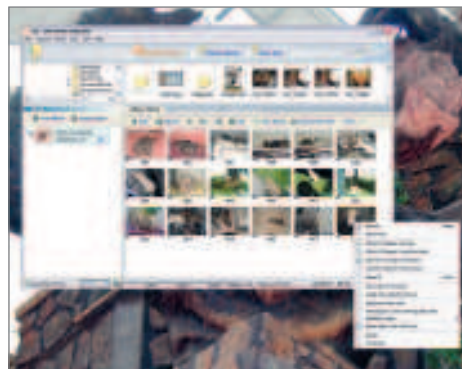
**SPREADING PROPAGANDA** With your message of vermin intolerance complete, you can burn it to CD as either a VCD of still images or a transition-packed SVCD. Burn a few copies, sneak into Currys Digital and put one in every display DVD player. At last, the world is safe from cute, cuddly rodents. **PCF**



**E MAMMILIAN MENUS** If you've made a few different albums on your disc, each putting forward your fascistic message with different images, music and slogans, you'll want a menu to choose which one of your intolerant pontifications to play next. There's a bunch of preset menus to choose from, or you can import an image of your diabolical choosing. You can also choose a soundtrack, separate to the songs used during the slideshow itself (*Photo Slideshow* will even rip tracks from a CD if you like), and tinker with the album thumbnails.

## Twist in the tale

Edit individual photos for more unique slideshows



Select the **Album Photo** tab and you'll see a thumbnail view of each pic in your slideshow. A right-click on any one brings up, among others, options to rotate, auto-adjust its exposure or add a custom transition – for instance, if it's a particularly favoured, or in our case, grandma-terrifying, photo.



You can also add text to individual photos or to every one in the album. Just select **Add text or artclip** and you'll get this new screen. You can tweak your message's font, size, colour and drop shadow here, as well as choose whether you want the final slideshow to zoom and pan around this picture.

### Upgrade

Upgrade to the latest edition of **DVD Photo Slideshow Professional 7.x** and save **30% off the price**. It includes support for DVD, as well as CD burning, new features and effects.

[www.dvd-photo-slideshow.com/buy-now-special.html](http://www.dvd-photo-slideshow.com/buy-now-special.html)



# 0 to website in 60 seconds

James Carey builds a homepage with Incomedia WebSite X5

**Y**ou're not a real human until you have a presence on the web. In ten years' time no one will believe you are who you say you are, unless they can verify it on MySpace. Think we're joking? Earlier this year your correspondent applied for a US visa, and the woman at the embassy made sure we were who we claimed to be by Googling our name... and that's a true story.

## WEB PRESENTS

So if you're to stand any chance of retaining your right to vote in the coming decade, you'd better get a homepage up rather sharpish. And to the rescue comes Incomedia's WebSite X5. If there's an easier way to get a website made, stopping short of sorcery, we haven't seen it. The process is broken down into five rapidly digested stages that will leave you with a clean, attractive website in actual seconds. As long as you have the text and images you need to hand, you should be able to get a website up and running in under a minute. Ready? Set. GO! **PCF**

**"If there's an easier way to get a website made, we haven't seen it"**



**Upgrade**

Visit [www.bluesquad.co.uk/future/website/offer](http://www.bluesquad.co.uk/future/website/offer) to upgrade to the latest edition of WebSite X5. When there, enter the code **BSQ-WEBSITE**, which will entitle you to a nice £10 off the regular price.

## ON THE DISC

### Incomedia WebSite X5

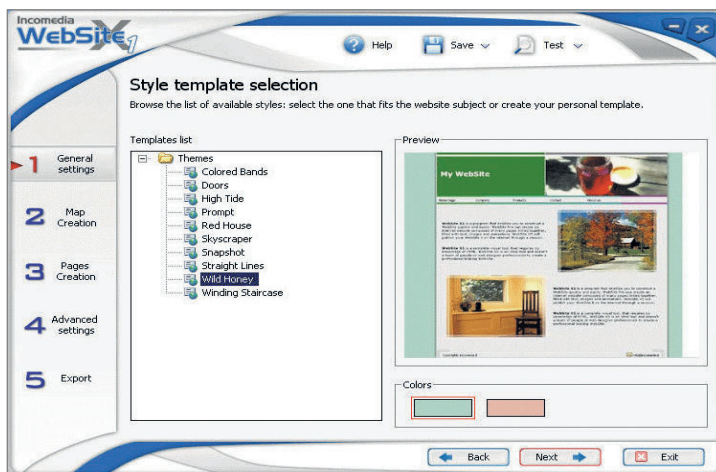
The full version of Incomedia WebSite X5, exactly as it's featured here, is on the disc. You won't win any awards for web design with this package, but if you just want a clean, professional-looking site up in no time at all, then this is exactly the piece of software you need. [www.websitex5.com](http://www.websitex5.com)

### Nvu

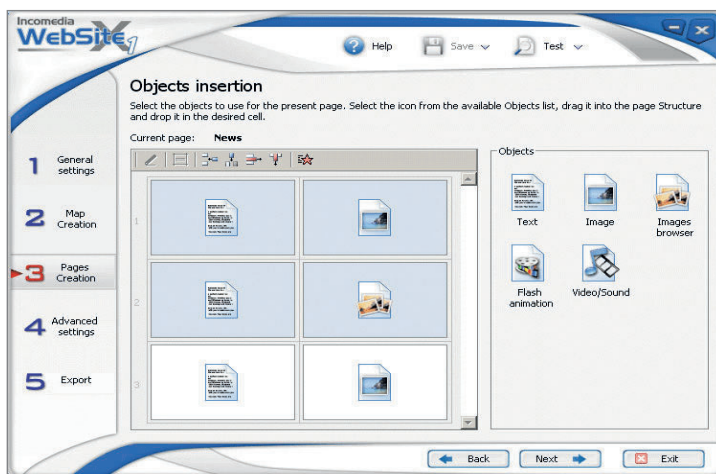
Feel you're ready to take the next step? Nvu is a WYSIWYG web-authoring tool that has infinitely more variety than WebSite X5, but it does require more technical know-how. See how you get on with this tutorial then, if you think you can handle the tough stuff, try Nvu. [www.nvu.com](http://www.nvu.com)

## Build a homepage

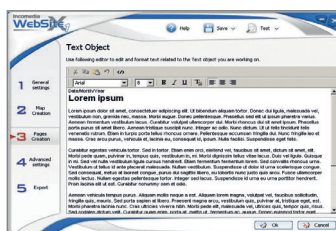
Get a presence on the web in no time



**1** Load the program, give your website a name and type in some contact details. These will appear as the title of the website, and as a mailto: footer. Next, pick a theme from the menu that suits the style of the site you're trying to make. We went for a jammy one. We like jam.



**2** Your entire website is split up into tabbed pages. On each page you simply drag and drop elements on to the grid, laying down areas of text, images, thumbnail collections, video or flash apps where you'd like them to appear. You can add or alter columns and rows on each page.



**3** Double-click the elements on the grid to enter the content for that element. So double-clicking a text element on the grid brings up a simple text editor, in which you can compose and paste your news story, update or whatever else it is that you want to add. The same process applies to posting, altering pictures and adding videos to the site.



**4** Now you can preview the page and see how everything looks. If you're not happy, just click on the appropriate stage in the left-hand menu and alter it. When you're happy with the final look, you can either export the finished site to your hard drive for uploading via a third-party FTP or upload directly to your webspace with the built-in FTP client.



# Rescue your drivers

Mike Channell keeps his system sparkling with *Driver Genius 2005*

**A**s tech journalists, constantly swapping new bits of kit in and out of our world-weary machines, drivers are essentially the bane of our existence. It was only last week that we were wrestling, in complete futility, with removing some graphics card drivers. Of course, it would have been a far less traumatic process had we been able to back up our entire driver set prior to mucking about with the computer.

Now we realise that if we'd got hold of *Driver Genius Professional Edition 2005* just one week earlier, we'd have fewer grey hairs in our barnets and a few less angrily shattered PCBs scattered around on the floor.

## DRIVER TIME

You'll find your full copy of *Driver Genius Pro 2005* on the disc. Installing the program itself is easy, you just need to nip on the internet to register your copy and grab a serial number. Point your browser at [www.bluesquad.co.uk/future/drivergenius/register](http://www.bluesquad.co.uk/future/drivergenius/register) where, until March 2007, you'll be furnished with your access code.

It's worth mentioning that if, horror of horrors, you're considering a full Windows reinstall then *Driver Genius* is nearly essential, allowing you to cherry pick which of your bloated driver set you want to carry across to the fresh install. Perhaps you'd like to keep the ones for your graphics card but ditch the ones that drive the USB-powered tickling stick – the one that adds an extra 30 seconds to start up? *Driver Genius* will be only happy to oblige. **PCF**

**"If you're considering a full Windows reinstall, this is nearly essential"**

## ON THE DISC

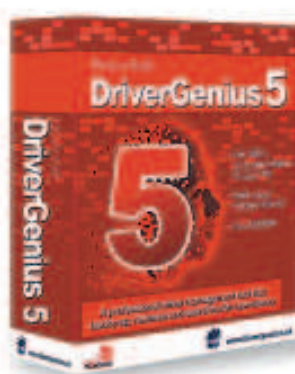
### OpenOffice 2.0

This very tutorial was written on *OpenOffice*, just so you know we're not being hypocritical. As an alternative to *MS Office* it's absolutely capable, as well as being completely free. What exactly are you waiting for, then? [www.openoffice.org](http://www.openoffice.org)

### Yamipod

Still wrestling with all the horrible bloat in *iTunes*? Streamline your iPod usage with this handy app that takes the inflexible and makes it flexible. If you want to drag and drop files both to and from your 'Pod, this is the app for you. [www.yamipod.com](http://www.yamipod.com)

**Driver Genius 2005** allows you to select which drivers you'd like to back up.

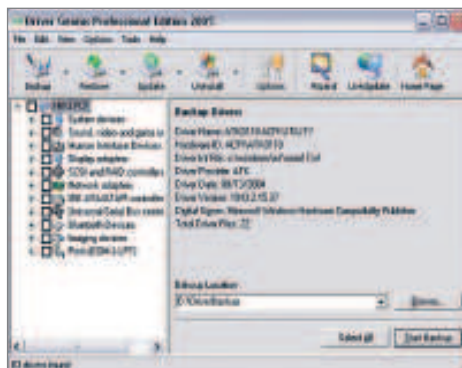


## Upgrade

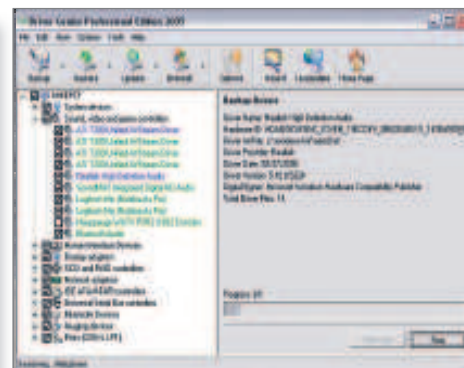
If you'd like to upgrade to the latest version of *Driver Genius Professional*, head on over to [www.bluesquad.co.uk/future/drivergenius/offer](http://www.bluesquad.co.uk/future/drivergenius/offer) and enter the code **BSQ-DRIVER** to receive a not unpleasant £5 off the full price.

## Calling for backup

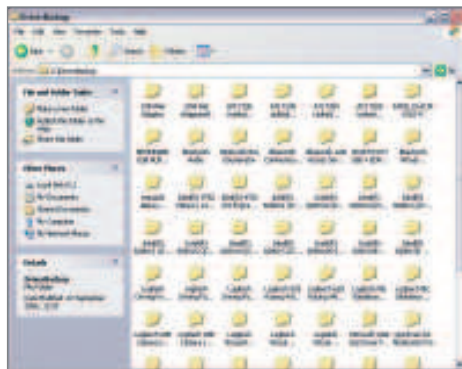
Preparing for a complete reinstall



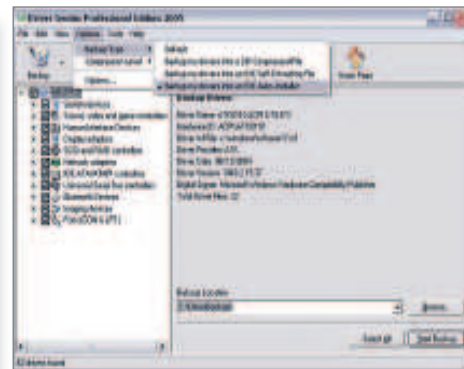
**1** This is the main screen of *Driver Genius*, which you'll be gazing at for most of your time. Fortunately it's full of info, including a handy list of all your drivers. By default you'll want to check them all and remove the ones you don't need. Click the **plus signs** to expand each facet.



**2** We've stopped using the Hauppauge WinTV PVR2 USB2, so we don't want it in our driver backup. Uncheck the box to omit it from the selection. We'd also suggest setting the backup directory to something memorable, such as C:\DriverBackup. Just hit **Start** when you're ready.



**3** This method provides you with a neat folder structure from which you can select your drivers when you install new hardware on your freshly rinsed operating system. When the **Found New Hardware** wizard appears, you'll be able to direct it to your specific driver set for that product.



**4** The alternative is this super-nifty setting in the **Options->Back up type** menu, it backs up all your drivers in one enormous, auto-installing executable. Put this file on a memory stick and run it on your new computer and you'll have all your chosen drivers returned to their rightful place.



# Missed an issue?

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# Ask Luis...

## ALL YOUR PC QUESTIONS ANSWERED

### Pub Quiz

Tanked up on techy trivia



- 1 Which of these is not a 1980s Broderbund game?  
a) *Dueling Digits*  
b) *Track Attack*  
c) *Essex*  
d) *Operation Typhoon*
- 2 How many games were in the original King's Quest series?  
a) 6  
b) 7  
c) VII  
d) 8
- 3 What was the first game produced in-house by EA?  
a) *Pinball Construction Set*  
b) *Archon*  
c) *John Madden Football*  
d) *Skate or Die*
- 4 Which of these came with the biggest manual?  
a) *Sid Meier's Pirates!*  
b) *Microprose Gunship*  
c) *Civilisation* (the original one)  
d) *F-15 Strike Eagle*
- 5 What was unusual about the DreamWorks game *The Neverhood*?  
a) It was developed in less than three months  
b) The development studio was sold 14 times  
c) It was the most expensive game made at the time  
d) All the graphics were filmed in claymation

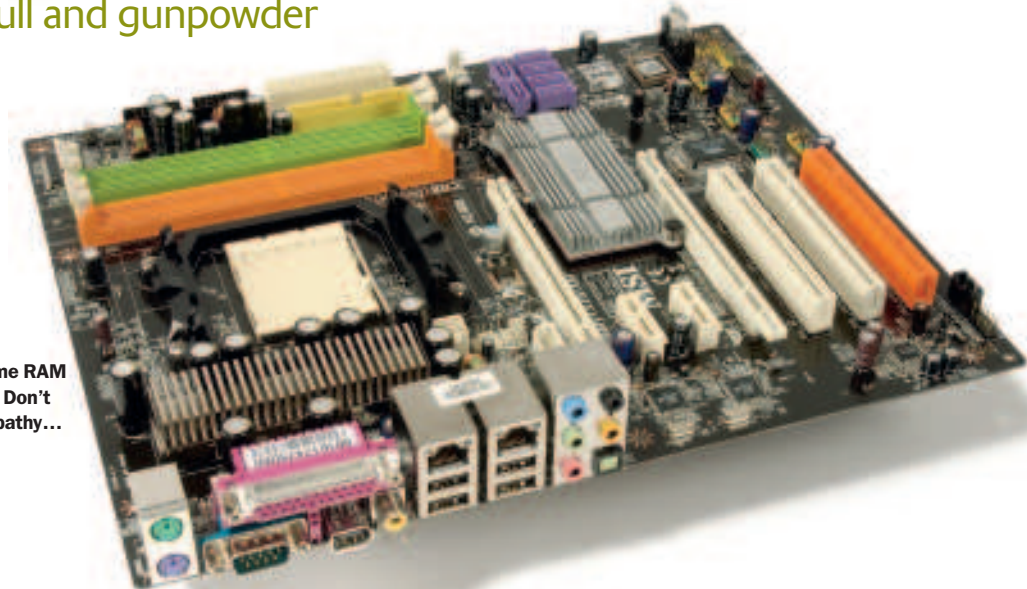
Answers on page 147

### Free technical support

Got a problem with your PC? Write to Luis, or better still drop him an email. Assuming you can get your PC to work, that is...  
**pcfhelp@futurenet.co.uk**  
**PCF Helpline**  
**30 Monmouth Street**  
**Bath, BA1 2BW**

## Don't panic

Coffee having long since lost its efficacy, our cantankerous computer compere, Luis Villazon, now gets his legal high from Red Bull and gunpowder



Inserted some RAM backwards? Don't expect sympathy...

### OS TWEAKS

#### Gah! Linux!

**Q** I'm not sure if you can help, as this is a Linux question. I have installed Ubuntu 6.06 and have also managed to install Firestarter. How can I set this up to load automatically when Ubuntu loads without me having to enter the admin password all the time?

Also, is there an antivirus software product for Ubuntu that you could recommend or put onto the PCFormat DVD?

**ROHAN CHINNIAN**  
**larnie25@yahoo.co.uk**

**A** You can use `update-rc.d` for start-only or stop-only scripts. You want a script that runs only at startup, so you'd type:

```
# update-rc.d -f my_script start
99 2 3 4 5.
```

In this example, `my_script` is the name of the script and the "start"

part says that the script runs... drum roll... at the start! (As an exercise for the reader, you might like to see what happens if you replace "start" with "stop"). The 99 parameter specifies the start order of the script: one place it first and 99 last and the other parameters are run levels to start at. Note the dot at the end though, you'll need that there.

If you need to know which run level you are running at, you can use the `$ runlevel` command to find out.

If all this seems complicated and confusing then that's because it is. Ubuntu is Linux. Linux is wilfully complicated and confusing at all times. There's no point all the Linux fans out there trying to deny it because it is perfectly obvious to me that you want it to be complicated and confusing, so as to differentiate yourselves from us poor XP users. It's all part of the macho charm of the thing, which I'm just too lazy and bad tempered to

argue with or appreciate at this juncture, I'm afraid.

Think I'm exaggerating? Consider this: you're asking me about antivirus software for an operating system that doesn't have viruses. If that isn't an example of someone complicating their life for the sake of it, I don't know what is. I am aware of two (count 'em, two) viruses for Linux – Bliss and Staog. And Staog has never been seen in the wild. Installing AV software to protect yourself from Bliss would be like living in an underground bunker to defend yourself against meteorite strikes. Such people do exist but they are not allowed to vote or hold public office and with good reason.

### PERFORMANCE

#### Why so slow?

**Q** Thanks for an ever-informative technical support section. However, nothing I have read thus far (and I read PCF often) has been able to



help me define what's going on in my PC. I recently upgraded to official high-end status. Being an avid, borderline obsessive gamer, I needed something a little juicier and so I splashed out and bought myself the following:

Intel Pentium D series 3.0GHz, ASUS PN32-SLI Deluxe motherboard, 2 x NVIDIA 7600GT 256MB (SLI is active, totalling 512MB), 1024MB DDR2 800MHz Adata Gamer RAM (with heatsink), a 200GB ATA Seagate hard disk and an 80GB Seagate (both 7,200RPM) and a Soundblaster Value 24-bit sound card.

All of this runs on a 300W PSU with a peak power of 350W. Now the problem is, I tested some of my favourite games like *Doom 3*, *F.E.A.R.*, *Battlefield 2* and *Need for Speed: Most Wanted*. The graphics are beautiful. 1,280x1,024 with every darn thing set to full, but, you guessed it: lag, lag, lag – especially *Doom 3*. I would like to know if it's a RAM issue, or if I should re-install Windows XP SP2? I added all this stuff but my installation of Windows existed on the HDDs already and is probably older than eight months. It drives me mad: I spent a fortune upgrading my PC, and I need my system to be in tip-top shape in time for *Crysis*. Man, I'm looking forward to that game.

STELLIO

stellio.coutsides@jwtt.com

**A** Well now, this is just hardware pinging. I don't believe you're really interested in maximising how the game looks or plays, so much as maximising the numbers. In particular, I'm talking about screen resolution. Have you actually tried

running in 1,024x768 resolution and compared the difference?

Screen res makes a lot of difference to the amount of work that your graphics card and RAM have to do, but the effect on the final image is a lot less than you'd expect. Think about it – DVD resolution is only 720x480, and the refresh rate on your TV is 50 frames per second, but if you watch a CGI cartoon like *Shrek*, your subjective impression of the visual quality is still better than for nearly all videogames. This disparity occurs for two reasons. First, the frames are all pre-rendered to a very high quality with lots of antialiasing and – far more importantly – the framerate is consistent.

When you talk about lag, you actually just mean low frame rate. Lag is the jerkiness you get in online games due to network latency. Because the frame rate in games depends on how complicated the scene is to render (anyone who has ever been to Ironforge will know what I mean) you need to set your quality levels conservatively so that the action doesn't start to stutter in the busy bits. Although you may lose bragging rights, your subjective impression of the game will be much higher if you run at a lower resolution but with the rendering and detail options turned on than insisting on maximum resolution and turning off anisotropic filtering or enduring a slide-show whenever there are two monsters on the screen at once. *Doom 3* is still actually one of the best looking games at 640x480 resolution because of the excellent rendering engine it uses.

And finally, finally, to answer your actual question, I think your sound card may be the bottleneck in your

system. I'm not certain with the other games but *Doom 3* ties the sound quality to the graphics quality and if you try to run in Ultra mode, you may be demanding more audio signal processing than a Soundblaster Value can handle. Try upgrading to a Platinum EAX.

## RAM

### Slot matching

**Q** Please help me on this mystery I long to solve. I own a dual channel mobo (ECS KN1 Extreme) and have a pair of TWINX Corsair matched memory sticks. Now, how do I know what setup to use? Slot one and three or slot one and two? I know that each mobo may vary and don't know if the way it is setup will influence performance. I have seen some pictures of memory set up in slots one and three, but I think that mine should be one and two or three and four. Am I right?

PAUL ELLIOTT

tallpauelliott@hotmail.com

**A** These pictures you saw, were they black and white, by any chance? Or perhaps you are yourself colour blind? Blue/yellow colour blindness (tritanopia is today's Chromosomal Defect of the Day) is pretty rare, but I'm hoping against hope that you are one of its sufferers. Because the alternative is a significantly heavier genetic burden, known in lay circles as *being a total jumbo*.

The point I'm making, with as little sarcasm as I can manage (believe me, I'm holding back here) is that your motherboard has colour-coded RAM slots. There is a pair of blue slots and a pair of yellow ones. ECS are proud enough of this design feature to give it a name. It's called "Easy Match". Say it out loud: Easy. Match. It's not called "Complicated Random" or "Arbitrary Pattern", it's called Easy Match. So how would you expect your paired RAM to be installed? (Hint: the colour has to match, see?).

## OS GLITCHES

### Stop! In the name of AV

**Q** After installing Norton Antivirus 2002 (to replace an install of Norton Antivirus 2002 with an expired subscription), Windows XP Home Edition will not start. It comes up with the message below:

A problem has been detected and Windows has been shut down

# FAQ

## PRAM



Nothing to do with the Mac acronym of the same name.

### What on Earth does that stand for then?

Phase-change RAM or Perfect RAM – the choice is yours.

### Perfect RAM? Who calls it that?

Samsung, which has just announced a working 64MB prototype chip. It is non-volatile, just like Flash RAM, but there's no need to separately erase the contents before you write something else to it, so it should be 30 times faster than Flash RAM.

### It's still not perfect...

It also takes up half the space of dynamic RAM, lasts 10 times as long and costs less to make.

### OK: how's it work?

The memory cells are made out of the same stuff that's used to make CDs and DVDs. In a CD-RW, the substance is heated, and the data is read back because the two phases have different refractive indices. Chalcogenide also changes its electrical resistance between states, and PRAM uses electrical heating to change the phase of each memory cell, instead of a laser.

### When can I buy it?

Samsung hopes to have chips in products by 2008, in systems such as mobile phones. Eventually, PRAM could change PCs, making them will be lighter, faster and easier to use. If it does what's promised, PRAM really will be perfect.

Read more at  
tinyurl.com/fmy8p

## Bedside table

This month, Luis is reading...

### Secrets of RSS

Author Steven Holzner Publisher Peachpit Press  
Price £17.99 ISBN 0-321-42622-3

RSS is an XML standard for syndicating web content. Even if you have no idea what that sentence means, this book might still be helpful. RSS is not a new technology but it hasn't achieved the widespread acceptance of intrinsically more complicated things (like video conferencing, say) because most people don't even realise what it is for, much less how to do it. Holzner does a good job of explaining both, but the truth is that this book is aimed much more at those running frequently updated websites than those visiting them.





■ [yada yada yada at some considerable length – Luis]

## Technical information:

\*\*\* STOP: 0x0000007E  
(0x00000005, 0xF75F0AD9,  
0xF79867E0, 0xF79864E0)

I have installed Windows XP Home Edition on my D drive, partition three (BACKUP) [NTFS] and created a new user account without a password (using the Medion Product Recovery CD – ROM for Windows XP Home Edition), but when I try to log in it asks for a password (it also asks for a password for the Guest User account). When I guess a password it says the “The specified domain either does not exist or could not be contacted.” The same logon message is displayed when I start

up Windows XP Home Edition in safe mode using the Administrator user account.

Please note that I do not remember the Administrator password for the preinstalled Windows XP. This is installed on my C drive, partition 1 (BOOT)[NTFS]. I want to have one working Windows XP on my computer. However my main concern is to retrieve my documents, pictures etc, as I didn't back these up before installing Norton Antivirus 2002.

DAVID DANIELS

david-daniels@orange.net

**A** STOP 7E errors are caused by lots of things, including but not limited to: low disk space, out of date BIOS, faulty RAM, video drivers or incompatible system

services. However, since this error occurred after installing AV software, I think we need look no further than Norton 2002 for the culprit. To all those who insist that the inconvenience of anti-virus software is both minor and worthwhile, I say that this is exactly the sort of thing I'm talking about. David's computer won't even boot Windows fer cryin' out loud!

Your primary objective then is to remove Norton AV and check that this lets you start XP. You may be able to simply restart in Safe Mode (press [F4] or [F8] at bootup) in which case you can use the Add/Remove Programs applet in Control Panel to uninstall Norton. If Safe Mode bombs as well, put the XP installation CD in and boot from that. When you get the “Welcome to Setup” dialogue, press [R] to repair

screen went blank, and now everything powers up as it should, but my monitor steadfastly remains in standby mode. Even though when I pull out the monitor cable, the LED on my monitor turns green. I looked at my CPU and there were two small chips that were black. I am using an AMD Duron 700 processor, and I don't really know what my motherboard is but it says GIGABYTE Dual BIOS, And an NVIDIA GeForce MX400 graphics card. What should I do?

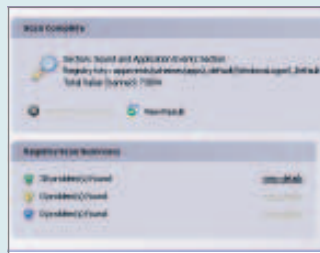
THOMAS MANSELL

mansell92@hotmail.com

**A** To summarise your problem: small spark, black chips. To summarise my answer: new motherboard. And probably CPU as well. I hope all that's abundantly clear?

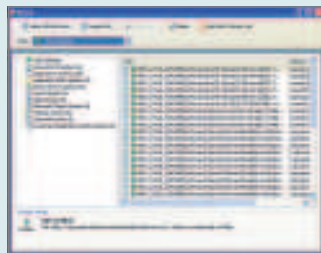
## Tidying up the registry

Do you really need all those keys?



**1 The dusty attic**  
By its very nature as a centralised repository for all configuration settings, the Windows registry can become something of a dumping ground. Even well-behaved applications can leave keys behind when they are uninstalled and over time this crud will slow down your system and can even cause instability.

**2 The new broom**  
There are dozens of freeware and shareware registry cleaners available. One that we like is TweakNow RegCleaner Professional, available from [www.download.com](http://www.download.com). This costs about £20 to register but there is a fully functional 30-day trial period. Download and install but don't add it to your system tray: that's overkill.



**3 The clean sweep**  
RegCleaner can run either a quick or a full scan but the difference between them isn't vast. Given that shouldn't need to run it more than once every couple of months unless you are a dangerous obsessive, there's really no reason not to run the full scan each time. Leave it in Beginner mode for now, though.

**4 The dustbin**  
When the scan is complete, click **View Results** to show all the unused keys that have been found. The ones that are safe to delete are selected by default, so do so. If you want to be more aggressive, you can use the Expert mode. If you change your mind, you can use the **Undo** option to restore deleted keys.

## “I wouldn't trust you to plug a keyboard in, let alone start fiddling with a mobo jumper”

and then [C] to start the Recovery Console. Log in with the admin account and type CD c:\windows\system32 at the command prompt. Then listserv to display a list of all the running services. Find the name of the service that Norton is running and type **disable <servicename>**. Make a note of the original start type of the service (which it will display when it is halted), in case you disable the wrong one and need to re-enable it later. Then type exit and your PC should reboot automatically. If you hit the right service, XP should now boot without the CD in the drive and you can then use **Add/Remove Programs** to tidy away the rest of Norton AV.

And in my not remotely humble opinion, your work ends there. Do not try to reinstall Norton, do not pass go, do not collect £200. Just watch what you download and don't open email attachments. Much easier, just as safe.

## MOTHERBOARDS

### Sparks are always a bad thing

**Q** I was just installing a new system fan when there was a small spark and my PC switched off. It wouldn't switch on for a while then once it did power up it said NTLDR files are missing press Ctrl + Alt + Del to reset or something like that. I was just about to reset it when the

## WEIRD GAMING Warcraft blues

**Q** Being a World of Warcraft account holder (Kor'gall server – Aurora Borealis guild – doing AQ40 and Naxx with my über 60 tank) I've found a very frustrating and unusual problem which all my self-confessed “techies” have been unable to solve. Therefore I decided “why speak to the monkeys when the organ grinder is available?”

When I log into Warcraft, sometimes I'm in the game (I can see other players moving around) but I'm not “in-game”, so I can't move my inventory around or use general chat. I know this because the chat channels don't appear when I first log on. Also, some of the characters have no names above their heads. The problem happens regularly and apparently at random: just as I'm invited to a raid group, or just after I hand a quest for example. It's so annoying, and try as I might, I can't find a way to stop it happening.

I have a laptop running next to my main PC, and both machines are hardwired to the internet through a Netgear router. I have no problems running the game through that as my son also has a World of Warcraft account (sad eh, but great for power levelling each other!) I



wonder if you have any advice that might solve this issue?

**COLIN BURROWS**

cburrows8@tiscali.co.uk

**A** Thank you for including detailed specs of your hardware, as well as anecdotal reports of other "similar" problems you have read about that affect people playing different games with different symptoms and different hardware. I have included neither since your question is quite long enough already and they have absolutely nothing to do with your problem. Which is almost certainly a corrupted WTF folder. Drag the **C:\Program Files\World of Warcraft\WTF** folder (and for good measure, WDB as well) on to your desktop to move them out of the way. Do the same for **C:\Program Files\World of Warcraft\Interface\AddOns**. Now restart the game. This will recreate default versions of all the moved folders but without the sinister and corrupting influence of all those badly-programmed third-party mods. If your pseudo-disconnection glitch has gone, you know that one of the mods was to blame. Start adding them back from the moved AddOns folder one at a time, starting with the oldest mods first. When you find the one that is responsible stop using it and petition the author at [www.curse-gaming.com](http://www.curse-gaming.com) for a bug fix.

## PSUS

### Always on

**Q** I have a power-saving multiplug, which shuts down the power to the monitor, printer, speakers and so on when the computer is shut down, and works via a connection to a USB port. Since I have upgraded

my motherboard (which now has USB2 on) the multiplug no longer works. However I have noticed that if I switch off my power supply it will then work. It seems that the USB 2 port is supplying a constant feed even when the computer is shut down. Is this normal and if so is there anything I could do to rectify the problem?

**DAVID KIRK**

kirkdave@ntlworld.com

**A** It's more likely to be a difference in the way your new motherboard regulates power in soft-off mode, since USB2.0 is supposed to be both backward and forward compatible with USB1.1. You may be able to alter this in the BIOS power management settings but a better solution is probably to eliminate the USB port from the equation altogether. It isn't a terribly good use of resources to tie up a USB port just so you can tell whether your PC is on or not. The Smart Strip from Bits Ltd will sense this directly by the power draw from your PC on the AC cable. I can't find a UK supplier for this but you can buy one online direct at [www.bitsltd.net/SmartStrip/index.htm](http://www.bitsltd.net/SmartStrip/index.htm).

## MOTHERBOARDS

### Burning is worse than sparks

**Q** I have a dual BIOS motherboard in my PC. The RAM was accidentally inserted the wrong way round, and the PC was beeping when we turned it on. Soon afterwards I became concerned by a burning smell emanating from the PC, so I turned it off and carefully reinserted the RAM the right way round. After that the PC refused to boot Windows XP in the normal

manner when the machine was booted up.

Then I flashed the BIOS with a newer version and then the PC does not even want to go initiate BIOS mode when the power button is pressed, and the monitor isn't displaying anything. What can I do to correct this? Is my PC beyond hope of recovery?

**RICHARD DE LANGE**

richard@hlab.co.za

**A** That burning smell was a tiny whiff of brimstone that leaked through a transdimensional portal to give you the merest hint of the damnation that awaits you for being such a monumental goon. I'm going to put to one side the question of how you managed to latch a keyed memory module in the wrong way around. But how *precisely* could you have hoped that reflashing your BIOS was going to cure a burned RAM module? Do you know what the BIOS does? No? Well what were you doing reflashing it then? What I always tell my kids is "don't press a button unless you already know what will happen when you do." They don't listen to me, of course, because I'm their dad and they are just kids. but I'm pretty sure you don't have either of those excuses (you don't sound like a kid and I'm absolutely *certain* I'm not your dad – I've dated some idiots in my time, but nothing like *this*).

So, you've got a PC with no RAM and the wrong BIOS version. Start by buying some replacement RAM, obviously. I'd also advise you to pay extra to have it installed by a pro. If your PC still doesn't boot, restore the BIOS from the read-only backup. But these are all jobs for your friendly engineer. I wouldn't trust you to plug the keyboard in, much less start fiddling with a mobo jumper. **PCF**

## VIRUS OF THE MONTH

Don't give this bug an inch



This email-harvesting little parasite's days are numbered.

**Name** Stration.AC

**Aliases** W32.Stration.AC@mm

**Type** Worm

**Infects** Windows 2003/

XP/2000/NT/ME/98/

**Number of outbreaks** <100

**Virulence** Low

**Lethality** Moderate

**First detected** 10/9/2006

## Symptoms

When Stration first executes, it opens Notepad and enters some random characters. It then harvests email addresses from your system and uses these to send copies of itself. The emails use random names in the From field and the usual vague and irrelevant subject lines. The message is always a short line implying that the attachment could not be read. The attachment has an innocuous file extension such as .log or .txt, but this is followed by a lot of spaces and then the real attachment, which is always something executable such as .scr or .pif. XP only considers the characters to the right of the last full stop; innocent\_file.text.jpg.log.exe is still an executable file.

## Prevention

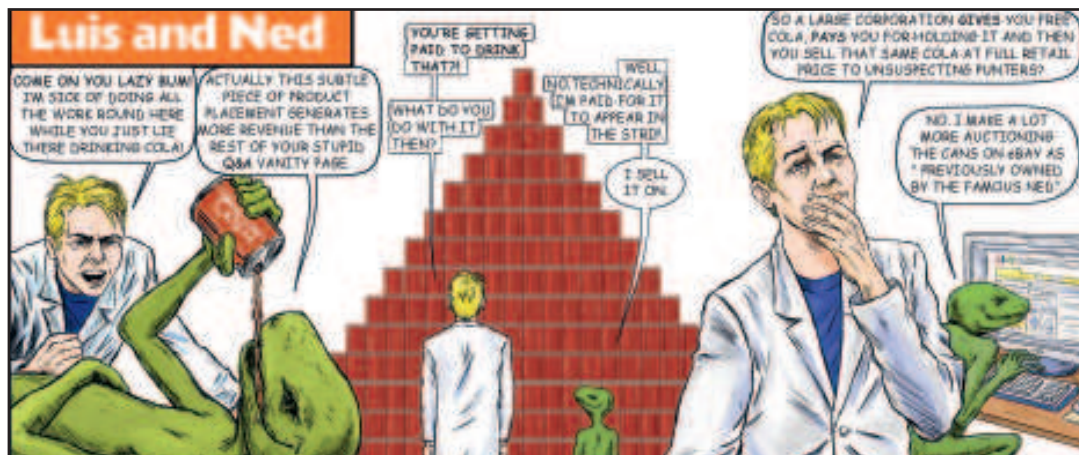
Don't open email attachments. Especially not executable ones.

## Cure

Stration creates a dozen files and registry keys but these all use consistent names so they are fairly easy to remove if you know what to look for. Check the Symantec.com description of the virus for details.

## More info

[tinyurl.com/h58lk](http://tinyurl.com/h58lk)





# Permission to speak

Voice recognition may have gone out of fashion for a while, but even Microsoft now sees it becoming mainstream soon. James Morris explains how your PC can turn speech to text

**B**ack in the 1990s, voice recognition was set to take over from the keyboard as the primary means of controlling your PC. According to its advocates, as soon as computers got powerful enough, we would all be jabbering away instead of typing. But at the turn of the millennium, the dream faltered as market-leading Lernout & Hauspie went spectacularly belly up, having recently acquired a number of its competitors. They all went down with the ship, although ScanSoft bought the remains.

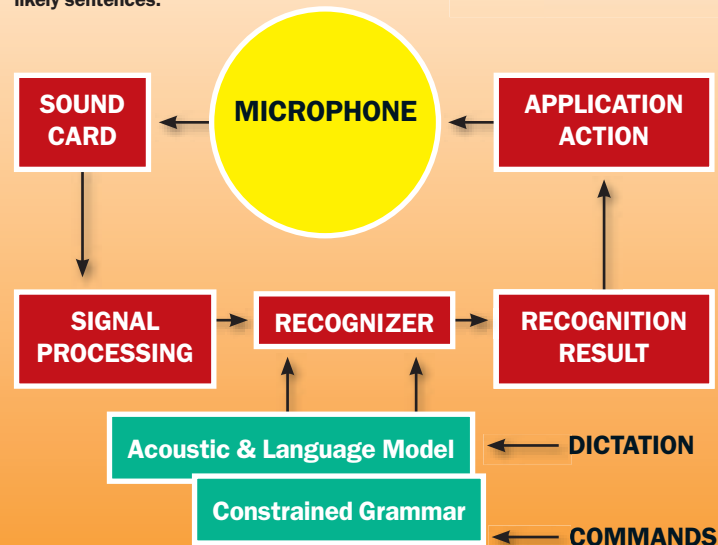
Despite the collapse of one of its main evangelists, voice recognition has continued to develop and now computers are more than powerful enough to cope with it. Microsoft has even decided to include the capability as standard in Windows Vista. Previous versions of Windows already supported the Microsoft Speech API, but only the Tablet PC Edition had a user interface, as did *Microsoft Office XP* and 2003. While the Windows Vista implementation has already faced derision (see the CNBC news feature reproduced at [www.youtube.com/watch?v=2Y\\_Jp6PxsSQ](http://www.youtube.com/watch?v=2Y_Jp6PxsSQ)), old favourites *Dragon NaturallySpeaking* and *IBM ViaVoice* still persist. With voice recognition gaining favour again, exactly how does it work, and why can it go spectacularly wrong?

## VITAL STATISTICS

A common misconception about speech recognition is that it allows your computer to understand what you're saying in a vaguely similar fashion to a human. This puts us in the whole thorny area of artificial intelligence, which is a debate well beyond the scope of this feature. In fact, although the creators of voice recognition software, such as Ray Kurzweil, might be dreaming of intelligent machines by 2030, all the leading speech products

## RECOGNITION PROCESS

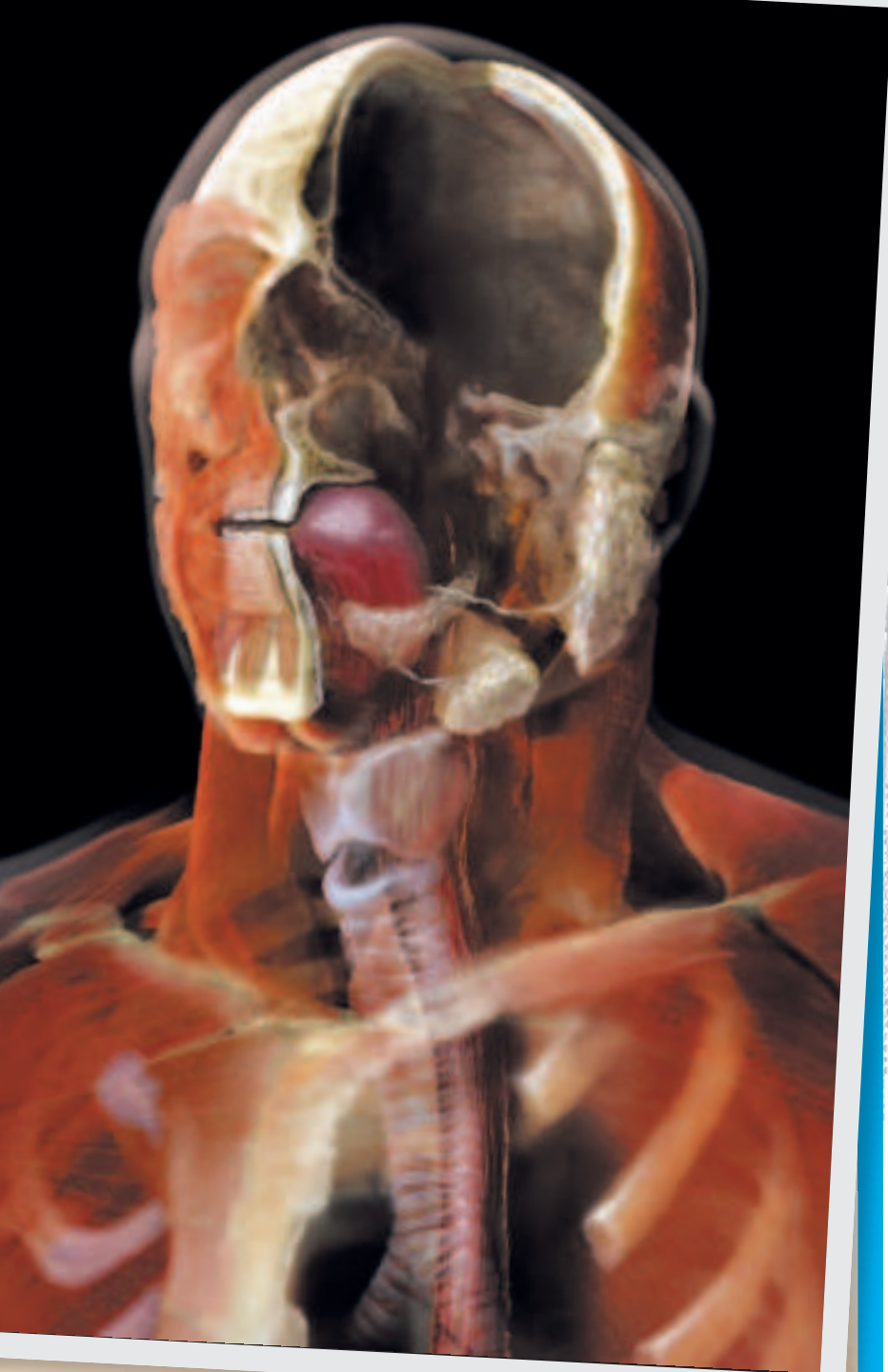
Your speech goes through a string of processes including Acoustic and Language Models, which deduce the possible letter-sounds you are trying to produce and the most likely sentences.



Picture © ANATOMICAL TRAVELOGUE/SCIENCE PHOTO LIBRARY

The human vocal tract uses a complicated combination of elements in the mouth to modulate the basic frequencies produced by the glottis.





use a process of pattern matching instead. What you're saying is compared with a statistical model of speech at phonetic and grammatical levels, without meaning being applied to the actual words.

Unlike pure musical notes, speech is made up of lots of sub-frequencies, but they are all, broadly, between 90 and 130Hz for men, 200 and 250Hz for women, and over 300Hz for children. The audio is very complex, but the frequency range is low, so although your soundcard can record at 44KHz or more, the voice recognition software only needs to sample this at just 11KHz in most cases.

Once the waveform has been sampled, the software begins a process of feature extraction. An Acoustic Model of speech is applied, which provides a range of possible phonetic sequences out of the audio waveform input. This model has been built up from a huge amount of research data. At this point, no definite conclusion has been made as to which sequence of letters is the right one. Instead, a variety of options are provided using the probabilities from the research statistics. So there will be multiple overlapping possibilities, but the range has been greatly reduced to the most common options for the language being spoken. The national accent will also be taken into account.

Nuance's *Dragon NaturallySpeaking* also uses another process called Nothing But Speech, which cuts out the speaker's h, although this just works in English in the current versions. Only certain sequences of sounds will actually correspond to real English words, so these will be the available choices. But there will still be quite a variety of different words which fit the sound possibilities provided by the Acoustic Model.

### TELL IT LIKE IT IS

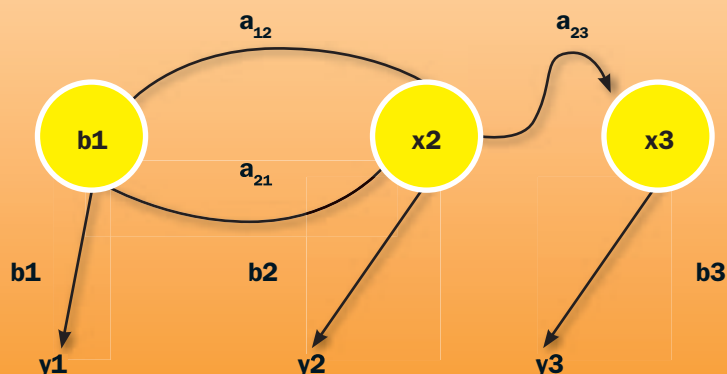
This is where a clever statistical system called Hidden Markov Models comes in. The Hidden Markov system is designed to deduce unknown parameters from a set of data. In the case of speech, we all speak with different timings and emphasis, even though we might be trying to say the same words. So the Hidden Markov Model takes the sounds and their timings, and works out how they should be grouped together into words, reducing the range of options.

At the same time, a Language Model is being applied to the strings of possible words derived from the previous stages. This is yet another statistical system based on copious research into real speech. Certain word combinations are much more likely than others for a given speaker in a given language region. *Dragon NaturallySpeaking* further reduces this by searching all your documents and emails for the kinds of phrases you are most likely to dictate as a user. The recogniser also works out whether the words are dictation or a command. So your end result will be text on the screen, or an action.

Although all the current speech recognition products work in the way described above, some emphasise one part of the process over others. *Dragon NaturallySpeaking*, for example, has historically put its emphasis on the Acoustic Model, requiring less training, whereas IBM *ViaVoice* has focused on the Language Model. So earlier versions of *ViaVoice* could work very well if adequately trained, but could get whole sentences wrong otherwise. Although all voice recognition software has moved on since then, it is still very dependent on the conditions being what they expect. If the conditions are different, the results can be comically inaccurate, as Microsoft discovered in its infamous Windows Vista demo. **PCF**

## THE MARKOV MODEL

The Hidden Markov Model is a statistical system for discovering hidden parameters behind the recorded data – such as the phonetic elements you are trying to produce with your speech.



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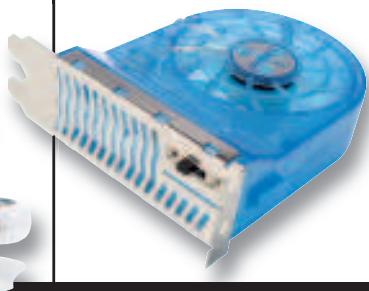
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# Restart

## OLD GAMES, NEW LIFE

### Splinter Cell Chaos Theory

REDISCOVER The joy of sneaking around at night

**W**e at PCF have a competitive streak a mile wide when it comes to multiplayer gaming. There's something satisfying about turning your chums into fine red mist on *Quake*, but every so often we get a hankering for something constructive.

We fired up *Splinter Cell Chaos Theory* with plans to play the excellent co-op mode. Unfortunately the popular game type has been axed in the forthcoming *Double Agent*, so we grabbed some co-op action while it was still in fashion.

Co-op in *Chaos Theory* is terrifying. Success depends on both of you surviving,

meaning when one of your daring duo gets capped the other has to make a dash to their twitching corpse and attempt to heal them.

As a result you begin to use cod military tactics, fanning out to walk the perimeter of every new room and communicating in clipped, anxious tones befitting such a stressful situation. Every so often things go horribly wrong, and that's perhaps when co-operative *Chaos Theory* is the most fun – the mad dash for cover, the quick checks that there are no exposed limbs and, crucially, the slow mutual psych-up for the next offensive.



Swaggering along whistling show tunes was a mistake. Silence is the name of the game here.

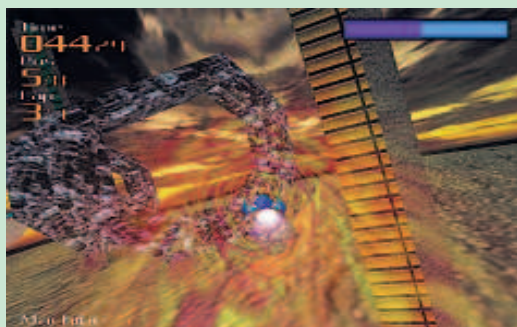
#### FALSE PROPHETS

"MIND DRIVE USES THE RESULTS AND AN ARTIFICIALLY INTELLIGENT COMPUTER PROGRAM TO INTERPRET A USER'S THOUGHTS AND ALTER THE COURSE OF THE FILM APPROPRIATELY" DISNEY'S PLANS FOR THOUGHT CONTROLLED MOVIES, REPORTED IN PCFS9, NEVER APPEARED. LOOKS LIKE BAMBI'S MUM IS DOOMED FOREVER.

### Hero to Zero

**A**nyone who remembers games like *F-Zero* and *Wipeout* with fondness will be keen to hit the curling loops of concrete that *Ace Speeder's* racing takes place on. A distinct homage to the N64 version of Nintendo's classic hover racer, this is all about fast-paced action on ridiculous loops.

What we want to see from the forthcoming *Ace Speeder 2* is a multiplayer mode that will allow us to mercilessly shunt each other's ships off into oblivion.



Get more info about *Ace Speeder 2* at [www.raingraph.com](http://www.raingraph.com)

### Outside the 'box

REINVENT And you thought building a PC into a toilet was pointless...

**C**an a PC really be described as a games console? No, it's actually a hefty great Xbox 360 crammed inside a just-about-portable chassis. OK, it's clunkier and boxier than a 1980s Lada, but the fact that insane genius Ben Heckendorn managed to persuade a chum to buy him an Xbox 360 specifically to enable him to hack it to bits and reassemble in a bespoke notebook chassis is nothing short of legendary in our humble opinion.

The laptop is even watercooled, leading us to believe that Ben may be some kind of glutton for punishment. We'd imagine he rearranged someone's abacus in a previous life and has been eternally damned to suffer a compulsion to hack machines as some kind of karmic penance. Either way, the finished results are staggering. [www.benheck.com](http://www.benheck.com)

What next? PS3s in iMac cases?





"THE ORIGINAL TOMB RAIDER WAS SO FRESH AND NEW. I WAS INFLUENCED BY NON-RACING GAMES, AS THEY TENDED TO BE MORE PROGRESSIVE AND FULL OF IDEAS"

Gavin Raeburn, Project Lead, TOCA Touring Cars, Codemasters



## REMEMBER...

Rug-crunching action from Bullfrog with a graphically spectacular, airborne game of floor mats and combat

**T**he first **Magic Carpet** game was a true revelation when it arrived way back in 1994. It ran lightning fast, was populated with all manner of mythical beasts and featured stunning terrain deformation. The 3D twisting and warping was never more apparent than when you cast the castle spell, one of your first tasks in just about every mission in the game. Launching a magical projectile at the ground caused a fortress to instantly rise from the earth. Of course, if you played a more naughty carpet cowboy, the same deformation created towering volcanoes that spewed lava all over whoever was unlucky enough to be hanging around below.

The game itself was a neat mix of attack and defence. On the one hand, you had to go and mash your enemies to possess their mana, but equally you couldn't just whizz off afterwards – rival wizards would go in and bag the golden globes before your balloon had time to drift over and pick them up. Add to that the constant worry of attacks on your castle and it became a frantic but engaging balancing act.

## ALSO OUT THEN...



### WARCRAFT

The game that begat WoW bears little relation to its big brother. Previous games in the series were top-down RTS efforts, where humans and orcs clashed across rather dull maps. This was one of the earlier RTS efforts and the series really hit its stride later on.

**SCORE**  
PCF 75%



### LITTLE BIG ADVENTURE

Bizarre French RPG with the most fantastically named mad dictator ever – Dr Funfrock. It was up to Twinsen to scupper his evil plans for world domination (is there any other kind?). The 3D characters were cute, but frustrating controls and frequent deaths held this back.

**SCORE**  
PCF 64%



### QUARANTINE

This saw you racing around a post-apocalyptic city called Kemo, collecting passengers and showing rival road warriors the business end of your machine gun. The highway code was thrown out, as was any kind of realism whatsoever. A fun, unashamed Doom clone.

**SCORE**  
PCF 82%



# Looking Back

## THE CREATOR'S CRITIQUE



### Fact File Race winner

**Subject** Gavin Raeburn  
**Job Title**  
Project Lead  
**Developer** Codemasters  
**Reviewed** PCF78, 82%



The car that fits that tyre is probably an end-of-level boss.



Close-formation racing and messy pile-ups are the two linchpins of TOCA's success.

# TOCA Touring Car Championship

"Gimme a TOCA! Gimme only nine months of development," bellows Kieron Gillen

**A**s a company, Codemasters has gone through a string of incarnations. Were you to hop into your recently patented time machine and take a trip back to the beginning of the firm's life, you'd find that Codemasters was king of the 8-bit budget games hill, with cheery quotes from the creators on the back of the boxes proclaiming the ambitious young company's greatness. But a more modern incarnation was as the UK's foremost developer of sports-related games. That phase started with

Codemasters' TOCA branded racers, and in particular, with *TOCA Touring Car Championship*. How did Codies find itself there, then?

"Codemasters wanted to move into the driving genre, and *Colin McRae* and *TOCA* were two licences that appeared on our radar," says Gavin Raeburn, who was Project Lead on *TOCA*. "They were ideal for our key European market at the time, although *TOCA* was more heavily biased towards a British audience." Raeburn had been working as a freelancer programmer, mainly for Codemasters, working on an array of budget and full price games as varied as *Psycho Pinball* and *Pete Sampras Tennis*. "TOCA was the first game where I stopped programming to focus purely on producing and directing the game," he explains. "We only had the bare bones of a team and I think the fact that we were developing games on PS1 and PC at the time was exciting enough for us. The fact that we were working on a racing game in a new genre was a really exciting bonus."

As you can imagine, working in an entire new genre created some problems. "I think it's more a case of what problems didn't

occur!" Raeburn laughs. "Almost every aspect of the project was new to us and we had only nine months to develop and release the finished title. From a design point of view, we knew we had to replicate the BTCC series as it was seen on television, so this immediately imposed a range of technical problems on us," Raeburn notes. In other words, more than six cars on the track with a fully operative damage model were required. "That was very rare then, and is still rare today," he adds. The tracks themselves caused similar problems. "Accurately replicating the real BTCC racing circuits with minimal pop-up was tricky," Raeburn states, "We didn't have the luxury of designing Ridge Racer-style tracks with bends to mask those long straights. Getting the game to run at 30fps was a huge challenge."

### WATCHING THE WHEELS

In other words, things were just as challenging over on the technical side. "We hadn't done car physics before and so we learned a huge amount in a very short period," Raeburn explains. "It was a process of balancing the handling parameters and reworking the physics code to accommodate new ideas. We wanted the cars to drift, but we couldn't achieve this, and ended up sticking with the snap-out model that gave the cars such a dangerous edge. The snap occurred when traction to the rear wheels was lost and the back end would break out, spinning the car. The player could catch this with some opposite lock if they were very quick, but this was very tricky to do, especially during long races or when racing close to another AI car. This worked well in the end, being different to the other racers out there, and it was well received."

When you have a pack of cars flying around a track, AI is another issue that needs careful consideration. The AI planning



TOCA's cars were notoriously easy to skid. And crash.







If you can't do this in a racing game, then the game's rubbish.

sessions for *TOCA* were particularly tough, "but great fun," adds Raeburn. "Analysing and distilling the basic set of rules that would enable an AI car to drive around a track competitively against other traffic, especially against an often erratic human driver. We found that less was more when creating a set of rules that could work in harmony with each other. I think we had around ten principal rules in the end, which was enough to create believable in-game artificial intelligence with few exploitable loopholes."

A key issue was trying to define what made a *TOCA* racing game different from any other game which was heavy on the automobiles. This took time.

"I don't think we realized the importance of it at the time, as we were simply trying to capture the essence of the British Touring Car championship, but it quickly became apparent in our gameplay testing sessions that the close pack racing, damage, aggressive AI and edge of your seat physics were very different to anything we'd seen in our competitor titles," Raeburn says. "The AI was actually doing some thinking for the competitor cars, instead of simply running on rails, and the damage system made the most of the driver errors and spins thrown up by this. There were no research papers available that covered these gaming areas in 1997, so this was all new stuff that we had to design and code from scratch." However, while the original sport was closely observed, it was in the service of a game rather than a true simulator. "We built *TOCA* with realism in mind, knowing that if we could capture

the essence of the BTCC we'd probably have a very playable game," Raeburn argues, "We didn't set out to create a sim, just something that was fun and true to the sport we were recreating."

#### A RESTORED CLASSIC

Looking back at the game nine years on, Raeburn remains overwhelming proud of his team's achievements. "I was particularly satisfied with the AI and the damage modelling, but overall I guess I was most proud to simply get the game

out on time to such a good critical reception, especially given the resource constraints we had at the time," Raeburn notes. "It felt like we were planning a mission to The Moon at times, but

everyone gave 100% effort and we achieved what we wanted to achieve."

A successful game begets a franchise, and *TOCA* was no exception. Since then we've seen various incarnations of the game, spinning off in to the more narrative heavy *TOCA: Race Driver*. Rather than being a masterplan from year one, Raeburn argues that all these alterations and changes come from key underlying design priorities. "We've always wanted to expand the appeal of *TOCA* to fans of race series' in other territories and to produce an accessible, realistic racer that the mass market can enjoy," Raeburn says, "This has driven all of our design and brand decisions over the years, and although the current *TOCA* is very different in scope, format and style when compared with the original *TOCA*, these underlying principles still remain." **PCF**

**"We worked on TOCA's realism, knowing it would make a good game"**

## Team-building exercise

Speed was the name of the game

Putting a team together so quickly was also problematic. "We also had to recruit the bulk of the team in just a couple of months as we expanded to accommodate the *TOCA* and *CMR* projects. But, we made some good recruitment

choices, mostly graduates, who turned out to be a very talented and hard working bunch," explains Gavin. What sort of skills do they look for in graduates? "We look for people with a passion for playing games and a relevant degree of 2:1

or higher," he notes, "They need to be good team players and have a very analytical approach to their work. If you get these basics right, mentoring and training is then usually enough to plug any remaining skill gaps."

# Restart

## Developer Diary

Ian Hardingham talks interfaces and creative independence



**P**rogress is a scary thing. Total innovation in any technological field can leave the average man on the street disoriented, and the field of games development is certainly no exception.

As a small independent games producer, you're expected to be capable of pushing the envelope in a different way to one of the big players. The onus is on you to create novelty and drama. That kind of pressure might seem healthy, but the reality is different: the two-headed beast that can eat any game project has one slaving mouth called Too Many Assets and another gaping maw called Too Much Cleverness.

Most serious games developers understand the problem with assets, but novel features have often caused problems their creators couldn't have predicted. Take *Darwinia*'s mouse-gesture system, for example, which was shelved in subsequent iterations of the otherwise popular game because it alienated players; or *Black & White*'s mouse-shaking and unit-dropping.

Solving problems like these by coming up with a novel way of controlling a game will always make the headlines [Just look at the level of anticipation surrounding the launch of the *Nintendo Wii* – Games Ed], but the powerful alternative is a more controversial approach: resorting to convention.

It worked beautifully in *Darwinia*: most players agree that the game is at its best when its unusual gameplay meshes with RTS staples. Look at *Far Cry*: its major innovation was its free-form nature, but its deployment of the tried-and-tested, like weapon-types, gave it solidity and familiarity. In *Determinance*, we decided to emulate this by innovating strongly in one area (mouse-based sword-control) and then employing staples like keyboard movement controls and health-bars.

It's as much of a sin to pioneer all over the place as it is to make a no-nonsense clone of a game that's already been financially successful: both can result in failure. The holy grail of game design isn't making an immersive virtual reality rabbit simulator which you control with your eyelids; it's about innovating intelligently.

Ian Hardingham is the Lead Designer at Mode 7 games. [www.mode7games.com/blog](http://www.mode7games.com/blog)



# ReFresh

**MORE FUN, SAME GAMES**

## The Mod Squad

Squeeze a little more out of tired games



### Exite

**Game** HL2

**Web** [www.exite.com](http://www.exite.com)

Or *Portal Deathmatch*, if you will. The guys responsible for the *Pilotable Strider Mod* have obviously been playing around with the Source engine, after watching the *Portal* videos, and created this neat little multiplayer mod. It's currently in the alpha test phase and, as such, there's the tendency for random deaths and falling out of the level. It's more about killing than puzzles so *Portal* it ain't, but the physics and fun are all there.



### Eternal Silence 2

**Game** HL2

**Web** [www.eternal-silence.net](http://www.eternal-silence.net)

A genuinely excellent mod this, and it's still only in the beta phase. Think of the titan combat of *BF2142* and transpose the action into space. In the beta you've got a deep-space mining colony under attack by a capital ship – you choose your side and take down the opposition's base. You can either defend your turf or hop into a fighter and attack the enemy's frigate head on, before taking it apart piece by piece from the inside.

## HONOURABLE MENTION



### Quake 4 ICCI

**Game** Quake 4

**Web** [gamescc.rbkdesign.com](http://gamescc.rbkdesign.com)

If there were ever any mod-makers that deserved to be funded by the bigger publishing houses it's these guys. Now, it may not be the most inventive mod ever, but for sheer dedication it can't be beaten. The makers are going through the whole of *Quake 4* and inserting subtitles, sound effect captions and a noise-detecting scanner that tells you what direction the noise is coming from. Finally, something for hard of hearing and deaf gamers.



## MMOG Log

We probably do need another hero...

**T**hings have been quiet in Paragon City for a while now. Perhaps too quiet... But all that's about to change with the release of the latest *City of Heroes* and *City of Villains* free expansion *Issue 8: To Protect and Serve*. It's set to hit the servers in December and looks ready to tilt the delicate balance of good vs evil back in the heroes' favour once more.

The biggest thing is the Veteran Rewards program, which will reward players with special costumes (such cool things as trench coats and wings), powers, badges and more, for each three months of game time. It doesn't sound that monumental, but it's going to be applied retroactively so that the time people have already put into the game will be rewarded.

*RF Online* has also been given a much needed update, with the final release of the Giga patch. It's available free of charge across all the servers, giving players access to a new area called Elan Plateau, as well as a new guild vs. guild system in Circle Zone Scramble.



**"Ready to tilt the balance of good vs evil back to the heroes"**

## RE-RELEASES THIS MONTH

Old progs, new tricks



### TOCA Race Driver 2

**Sold Out >>£5**

A whole host of different racing types for the paltry, one-time fee of a fiver? It's like buy one, get 15 free. From ice racing to the traditional touring cars, it's all here.



### Elder Scrolls III: Morrowind

**Game of the Year Edition**

**PCG Presents >>£10**

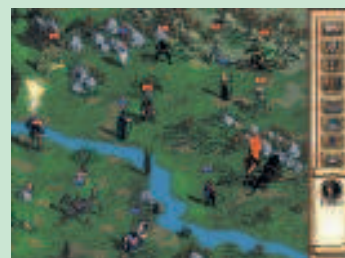
*Oblivion* running like a snail on your machine? Step back in time with this prequel and explore *Morrowind*. This pack includes both expansions, too.



### Atari Anniversary Edition

**Sold Out >>£5**

Thankfully, this isn't one of those amorphous masses of old, bad games. It's a selection of 12 Atari classics such as *Battlezone*, *Missile Command* and *Pong*, plus bonus features.



### Heroes of Might and Magic III & IV

**MAD >>£10**

Forget *HoMM III* and dive straight into iteration number IV. Complete with expansion packs *The Gathering Storm* and *Winds of War*, this pack has all the turn-based RPG-ing you could want.



TEXT  
TO WIN!You'll find every  
Western cliché  
in the book in  
gunslinging  
Call of Juarez.

# Bid low and bag an Alienware super rig!

Your unassuming little phone could win you one of the finest PCs around

**ALIENWARE**  
HIGH-PERFORMANCE SYSTEMS

**M**ost of us just don't have the necessary folding stuff to splurge a couple of grand on a beast of a gaming rig. We've all had to make do with lowering the res just to get a game to run at a half-decent frame rate at some stage.

No more, we say, and our campaign starts here. We've teamed up with Alienware to bring the light of high-power gaming into the life of one lucky, lucky reader. This Area-51 7500 has a 2.66GHz Conroe chip at its heart, the dual core joy of a 1GB NVIDIA 7950GX2 and an eye-

wateringly large 24-inch widescreen LCD monitor.

We're holding a reverse auction, where the lowest unique bid wins the PC. To win, your bid not only has to be the lowest but also the only bid of that value. So, you could try a 1p bid – but if someone else bids the same, you lose. For every bid you make, you'll receive a reply telling you whether you hold the lowest unique bid. You'll also find out if your bid is unique, but not the lowest.

Of course, if your bid isn't unique, you can always go back in with another offer. **PCF**

## HOW TO ENTER

Bidding is simple! All you've got to do to win this beautiful PC is text the word **ALIENWARE**, then a space, followed by your bid in pence to 80876. So, if you want to bid £1.27, you'd text **ALIENWARE 127** to 80876. Good luck!

**Simply text  
ALIENWARE (bid)  
to 80876!**

## PC SPECS

- >> **Processor** Intel Core 2 Duo E6700 2.66GHz, Conroe core 4MB Cache 1GHz FSB
- >> **Memory** 1GB RAM 800MHz DDR2
- >> **Motherboard** NVIDIA NFORCE 4 SLI
- >> **Graphics card** 1GB NVIDIA 7950GX2
- >> **Monitor** 24" Widescreen LCD panel
- >> **Storage** 2 x 250GB SATA 3Gb/s 7,200 RPM
- >> **Power supply** 650 Watt PSU
- >> **Optical drive** 16x Dual Layer DVD+/- R/W

TERMS AND CONDITIONS 1.1 To enter the reverse bid auction, you can either: (a) text your bid to 80876 at any time between 25/09/2006 and 30/11/2006; or (b) send your bid by post to Win Alienware Gaming PC, PC Format, 30 Monmouth Street, Bath, BA1 2BW received between 25/09/2006 and 30/11/2006. 1.2 Texts cost £1.50 plus your standard network charge. The auction is open to all UK mobile phone networks. No purchase necessary. 1.3 Hybyte Solutions & Services Limited ('Hybyte') is providing the services to enable Future Publishing Limited to run the reverse bid auction (the 'Hybyte Service'). 1.4 By submitting a bid, you agree to these auction rules, the terms and conditions of Hybyte which can be found at www.hybyte.com (the 'Hybyte Terms') and the terms and conditions at www.winthelot.com, which apply if you are a winner of a lot in the reverse bid auction ('Winning Terms'). If there is any inconsistency between these auction rules, the Hybyte Terms and the Winning Terms, these auction rules apply. 1.5 By submitting a bid, you confirm you are happy to receive information about your status in the auction, the status of the auction as a whole and of future offers, promotions and auctions of Future Publishing Limited and carefully selected third parties. If you don't want to receive information about future offers, promotions and auctions, please include the word NO at the end of your text message or postal entry. 1.6 The auction is open to UK residents only who are over the age of 18 years except employees of Future plc and any of its group companies and the employees of any entity which has been involved with the administration of this reverse bid auction. 1.7 In relation to a particular lot, the winning bid will be the lowest bid in whole pence that is closest to 1 pence that has not been matched by another bidder. 1.8 The auction for a particular lot is open for the period stipulated by the promoter in relation to that lot. 1.9 No responsibility is accepted for entries delayed or lost in the post or during transmission. Proof of sending will not be accepted as proof of receipt. 1.10 Telephone or postal bids are limited to 50 per bidder. 1.11 Unless otherwise stated, no lot includes travelling expenses incurred in relation to the use of the lot and by submitting a bid, you agree to pay those travel expenses if you win the lot. 1.12 Any charges incurred in delivering a lot to the winning bidder will be the responsibility of the promoter. However, Alienware reserves the right to cancel delivery arrangements should three unsuccessful attempts be made to deliver the lot. Subsequent delivery charges shall be the responsibility of the winning bidder. 1.13 Each successful bidder of a lot shall, within 14 days of the close of the auction, be required to pay the amount of the winning lowest unique bid to assume ownership of the lot. 1.14 Ownership of a lot passes to the winning bidder of that lot only once the value of the winning bid has been paid and cleared in the promoter's bank account. 1.15 The Hybyte Service is provided by Hybyte. It is not guaranteed to be provided free from or in relation to any interruptions, faults or inaccuracies. Neither Future Publishing Limited or Hybyte will be liable for any loss, damages, costs or expenses arising from or in relation to such interruptions, faults or inaccuracies. Hybyte reserves the right unilaterally to terminate or all or any part of the Hybyte Service for whatever reason without notice and neither Future Publishing Limited or Hybyte shall have any liability in connection therewith. 1.14 You further acknowledge that you are only entitled to use the reverse bid auction and the Hybyte Services for lawful purposes, for your own personal, private use and in a way which does not contravene the intellectual property or proprietary rights of Future Publishing Limited, Hybyte or any third parties. 1.15 You recognise that the Hybyte Service may, from time to time, be adversely affected by events outside of its control. Hybyte will make all reasonable endeavours to ensure the uninterrupted and timely supply of the Hybyte Service and will take all reasonable steps at its expense to correct any errors, omissions or mistakes, but will be under no liability for any error in, or delay in, or failure in transmission of the Hybyte Service.



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# Overt to you... HAVE YOUR SAY

## If I ruled the world

No-one's perfect, least of all games and hardware developers. We asked you about what really hacks you off, and how you'd have done it better...

Isn't it time that we had **interactive competitive games** that can be played in real time between two or more cellphones **using Bluetooth?** Surely there must be a market for this (and if it is already being done – please tell me by who?)

**Tim Norris**

I wish that online gaming had a proper way of **banning cheats**. Punkbuster does OK, but there are times when it's pretty obvious that someone's cheating, but that doesn't always get them booted off a server – not before they've spoiled your game.

**Jezreel**

I am peeved off with **printer manufacturers**. I have a fantastic colour laser printer, very pleased with the build quality, speed and results. It came with what I thought would last a fair time, half capacity **colour cartridges which only lasted a pitiful time**. To replace a full set, nearly the cost of the printer? And to boot non refillable or recyclable cartridges. I now use a third-party company who supply superb kits, to get a high capacity refill for at least a 1/3rd of the cost. Apart from not being environmentally friendly, **companies like Epson etc. Are shooting themselves in the foot**, why don't they offer a refill kit, an exchange scheme or annual bulk consumables deal. Surely (apart from third party companies) this would benefit us all?

I wish Microsoft had better **Quality Assurance**. It's had excellent ideas in the past and will in the future, but the mistrust of the company due to **buggy software and security flaws** has overshadowed this. DirectX is a prime example – excellent now for compatibility, but DX1 totally knackered my computer.

**Nick Brigden**

I'm fed up with doing **free beta testing** for just about every piece of software I use. I've got to go now as I have to get a patch... Ho Hum

**Paul Doherty**

I've been a user of PCs for much longer than I care to admit.

One thing I miss about the old pre-Windows days is **XTree**. Remember this? Windows Explorer with useful extras! You could batch rename, batch copy, batch move – you name it XTree (and its successor XTree Gold) could do it. It also had viewer 'plug-ins' (before they were called plug-ins) that enabled you to actually **view the contents of many types of files without launching the native application**. Doesn't sound too wonderful now, but this was in the days of DOS 5!

**Spike**

I want to grab George Lucas and scream **"There are no merits to Death By Star Wars Overdose, you bearded goon! Why not do adventure games again? Grim Fandango II would revive a dying genre overnight!"**

**Thank God he can't ruin Sam and Max 2 like he did Monkey Island 5. (Admittedly, not all Star Wars games are bad – but it's been a very long time since Jedi Knight graced my PC.)**

**Joe Martin**



## WIN!

People who responded to this month's survey had the chance to win a barebones Shuttle PC designed for Media Center, and five copies of DEFCON. We've decided David's idea was good enough to win the Shuttle system – apart from the bit about paying for the update discs! They should be provided free of charge... Sign up for our newsletter to find out what's on offer next month at [www.pcformat.co.uk](http://www.pcformat.co.uk)



Quotes are not based on anything like as scientific as a random sample.